TECH OUT OFT.

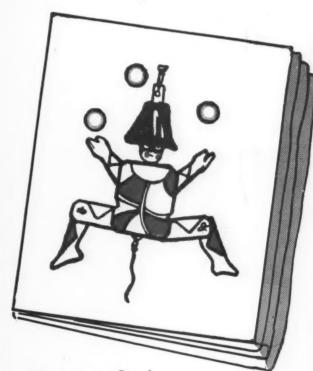
Modern

THOORAPHY

this issue

Web Offset
Quality Control
Yearbooks by Offset
Chi, Litho Institute
Small Litho Camera
Budgeting Costs

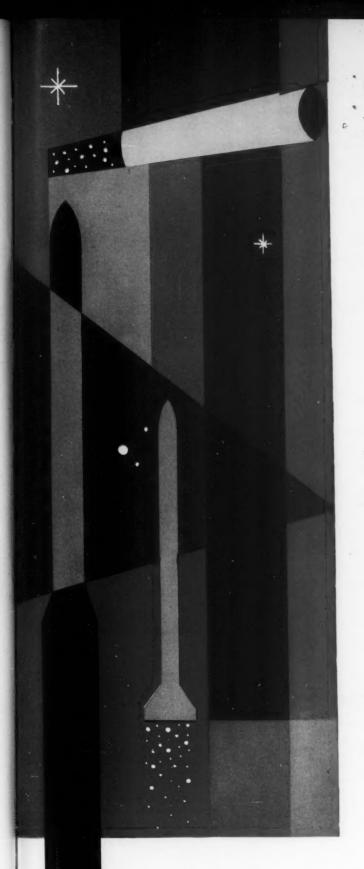
DECEMBER, 1957



Christmas Cards by Lithography

### Eldorado

· LINOTYPE





### sputnik tip:

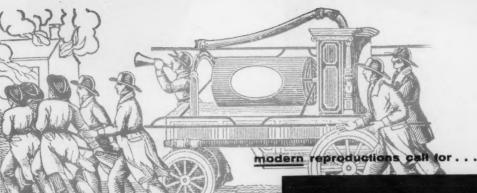
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### ANSCO

### quality films and chemicals

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**Reprolith Film.** Blue sensitive, for high contrast positives by contact printing from line and halftone negatives. May also be used in the camera.

Reprolith Thin Bose. Blue sensitive, for making deepetch positives and for dot etching. Perfect for lateral reversals, overlays and strip-ins.

Reprolith Ortho. High contrast, high ortho sensitivity. For line and halftone copying of black-and-white and color originals.

Reprolith Ortho Thin Buse. High ortho sensitivity, high contrast. Excellent for halftone positives, overlays, stripins, lateral reversals.

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Reprolith Ortho Type B, Thin Bose. High contrast and speed. Ideal for overlays, strip-ins, and for printing through lateral reversals.

Reprolith Panchromatic. Full pan sensitivity, high speed, high contrast. For direct halftone or line separations from colored originals.

Reprolith Stripping Film, Orthochromotic. Fast exposure speed, short developing time. Anti-halation back coating to maintain definition. Strips easily with minimum soaking.

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Commercial. Brilliant contrast, low-speed. For copying continuous-tone black-and-white originals and for making duplicate negatives and positive transparencies by contact or projection printing.



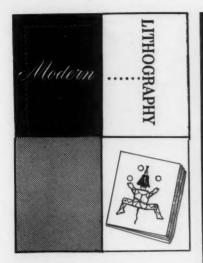
### Ansco Graphic Chemicals

Reprodol Developer. A prepared formula for producing maximum density and contrast. For line and halftone negatives, contact positives for dot etching, and for fine-line negatives when processed without agitation. Convenient dry powder form.

Acid Fixer. A single-mix, easy-to-dissolve powder packed in handy key-opening containers. Recommended whenever a hardening formula is desired.

ANSCO, Binghamton, New York. A Division of General Aniline & Film Corporation. "From Research to Reality."

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#### Cover

A nostalgic lithographed Christmas card called "Penny Toys" is the cover subject this month. It folds out to show six other childhood subjects, and was lithographed by the British firm W. S. Cowell. Original woodcuts were executed by Edward G. Craig in the volume A Book of Penny Toys, London, 1899. The greeting card is one of a series offered by the Metropolitan Museum of Art, New York.

> WAYNE E. DORLAND Publisher Hamilton C. Carson Editor JOHN N. PANNULLO Associate Editor HERBERT P. PASCHEL Technical Editor RALPH DORLAND Advertising Manager ROBERT F. GARTY

Midwest Manager ROGER APPLEBY Eastern District Manager

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### MODERN LITHOGRAPHY

VOLUME 25, NUMBER 12

DECEMBER, 1957

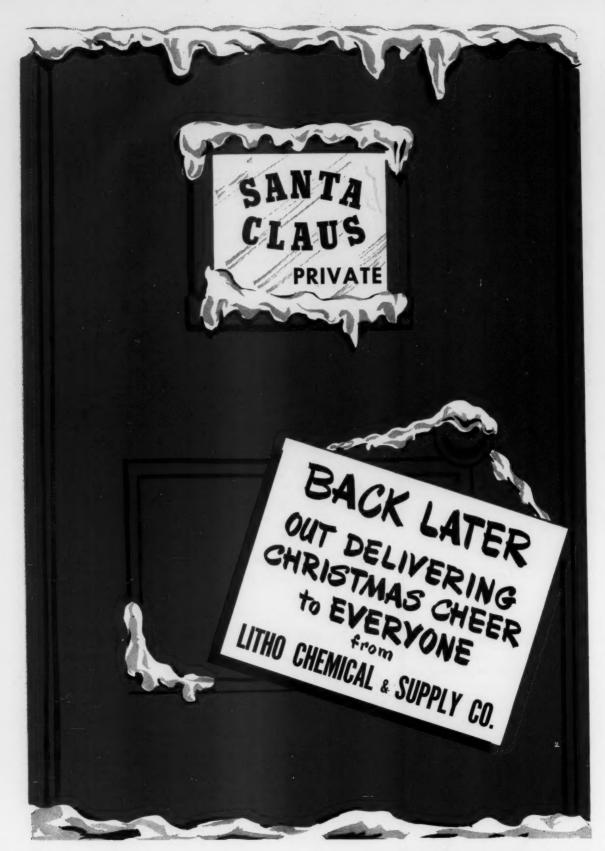
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### 2nd PRIZE

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### PRIZE

BALDWIN E. SETTOON HOUSTON, TEXAS

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### OTHER PRIZE WINNERS

### 4TH PRIZE WINNERS

(Each 4th prize winner won his choice of either a \$500 Admiral color TV set or a \$500 Admiral TV and Hi-Fi Combination).

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### 5TH PRIZE WINNERS

(Each 5th prize winner won a handsome \$100 Waltham wrist watch with 14K yellow gold case and gold filled matching wristband).

Harry Barusch, San Francisco, Cal. Fred D. Barber, Milwaukee, Wis. Robert Garner, Des Moines, Iowa E. D. Wetterlind, Red Oak, Iowa G. F. Carlisle, Carson City, Nev. Ivan Paris, Cincinnati, O. Mel M. Minnich, Bowling Green, O. Mrs. S. R. Depue, Wheaton, Ill. John C. Benson, Winona Lake, Ind. Howard Walter, Oklahoma City, Okla. Wm. J. Mueller, Racine, Wis. L. E. Reiland, Fond du Lac, Wis. Franklin R. Payer, Cleveland, O. Horace Swale, Houston, Texas

### 6TH PRIZE WINNERS

(Each 6th prize winner won an \$89.95 Polaroid camera).

Clive W. Roe, Weslaco, Tex.
V. G. Edwards, Kansas City, Mo,
G. J. Bauhens, Houston, Tex.
E. E. Tharp, Lexington, Ky.
E. S. Bart, Brownsville, Tex.
Gordon McDonald, Itasca, Tex.
Wm. H. Linderman, Chicago, Ill.
L. E. Wallace, Kansas City, Ka.
Wm. M. Jones, Owensboro, Ky.
Arthur Kornack, Racine, Wis.
L. L. Sewell, Kansas City, Mo.
Joseph T. Brown, Atlanta, Ga.
H. W. Lightner, Grand Raplds, Mich.

### 7TH PRIZE WINNERS

(Each 7th prize winner won a \$39.95 Admiral Transistor Pocket Radio.)

G. Meyer, University City, Mo. G. W. Morris, Indianapolis, Ind. M. E. Canfield, Lakin, Ka. A. L. Hitt, Nashville, Tenn. A. C. Evans, Sioux City, Ia. John N. Barron, Spring Valley, III. W. M. Breaks, Indianapolis, Ind. LeVern Cook, Broken Bow, Neb. H. E. Burdick, Johnson City, Tenn. V. J. Burian, Yucaipa, Cal. W. T. Lacey, Muncie, Ind. N. J. Brownrigg, Mt. Morris, Mich. Tom Wilson, Nashville, N. C. L. J. Whittemore, Lakewood, O. Wm. Pipes, Colbert, Ga. A. Seasongood, Jr., Cincinnati, O. J. L. Smith, Long Beach, Cal. D. M. Allison, Guymon, Okla. R. D. Wassall, Websters Grove, Mo. Wm. E. Westerhold, Kansas City, Mo. Mrs. E. Rowland, Dalton, Ga. Thomas Wurm, Westlake, O. A. E. Teasdale, Inkster, Mich. Fred Stuhlmann, Chicago, III. P. L. Lamb, Ft. Worth, Tex. John Gyneses Jr., Dayton, O. George Murphy, Milwaukee, Wis. G. A. Moore, Jr., Raleigh, N. C. A. J. Horton, Ft. Lauderdale, Fla. D. L. Dollison, Logan, O. W. H. Plourd, Fullerton, Neb. M. Duenk, Cedar Grove, Wis. Kenneth G. Meuser, Monett, Mo. R. M. Wohl, St. Louis, Mo.

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- Mr. Norris W. C. Bracon Dr. Adv. Mar. Sariassi (Phoasaches
- Mr. Mayer Lucktered, February Hodern Lithuarypher
- Mr. Mayne V. Navalos, Editor taland Printer
- Mr. Myran T. Lineli, Publisher Graphic Arts Monthly
- Mr. Walter L. Legarinson, Long, V. P. MASS.
- Mr. K. F. Welter, Latter Printing Magneine

To all of you who won prizes in the hig Sam'l Bingham Contest, we extend our heartiest congrutulations. If there is a note of envious nostalgis in our felicitations to the winners of the GRAND prizes, it is only that we too would like to be "doing Paris" with you or lazing in the sun with you on a palm-abaded heach in Bermuda or Names.

We thank all of the thousands of presence across the country, who participated in this contest, but it is our hope that in pausing to think about collers—comparing and evaluating their performance you have gained knowledge that will case and society your tasks.

i

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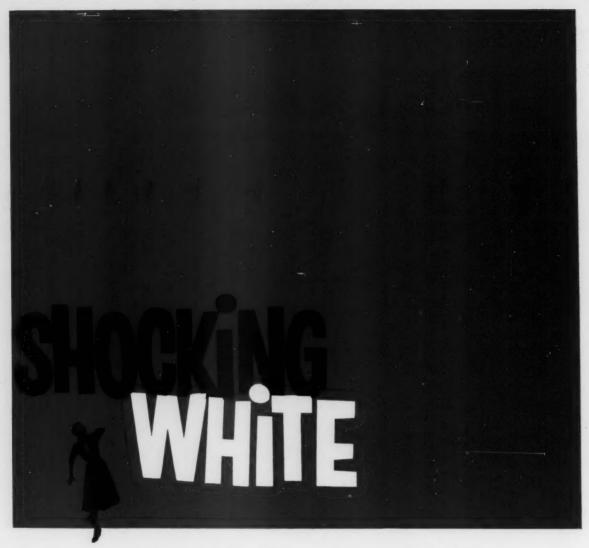
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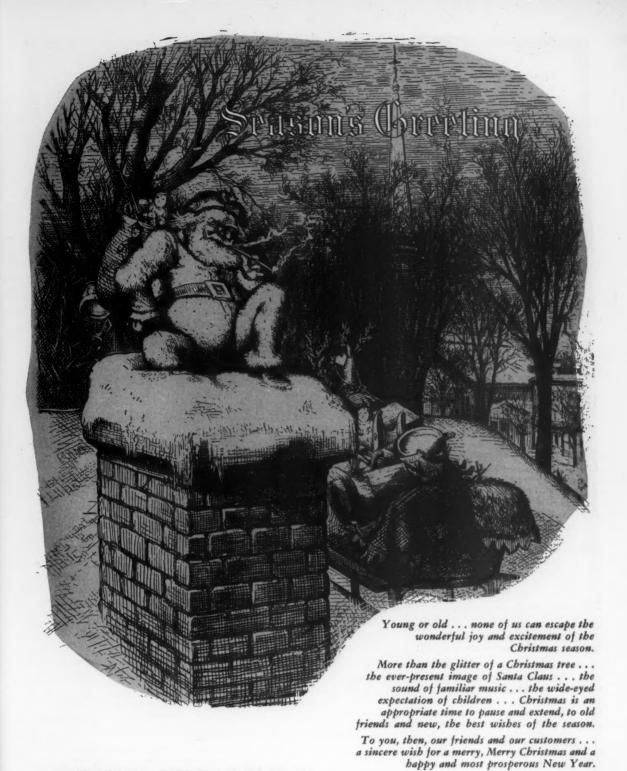


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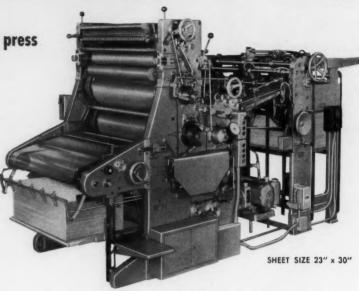
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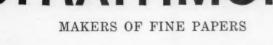
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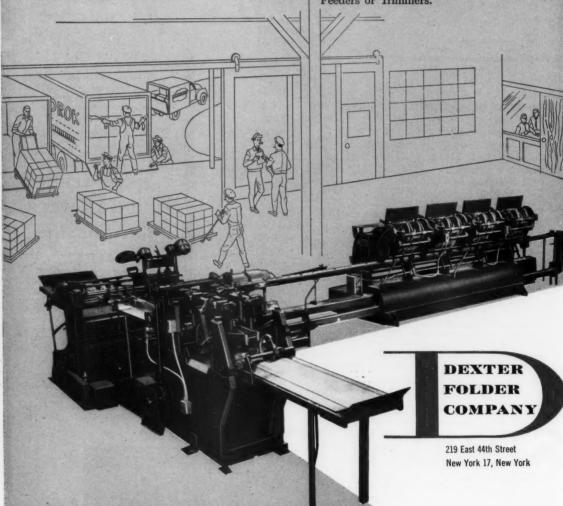
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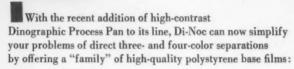


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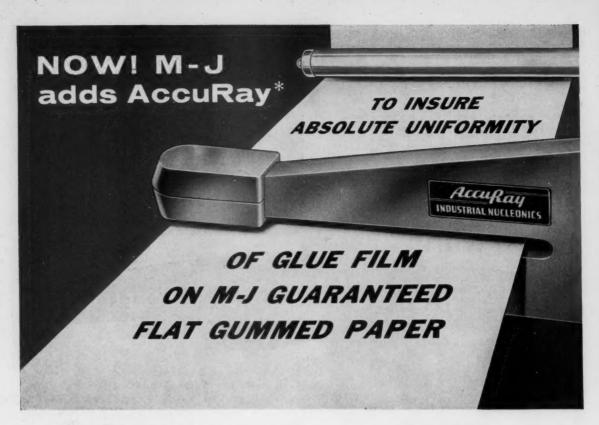
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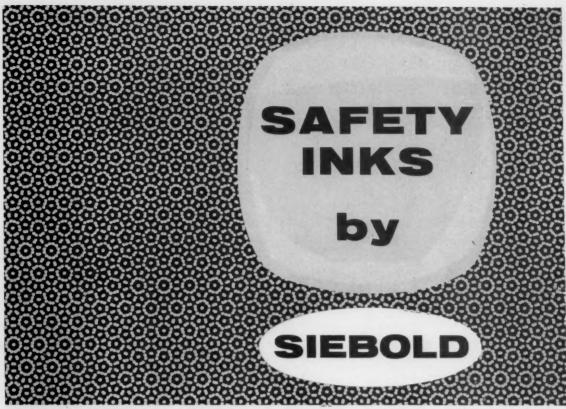
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EVERYTHING FOR THE LITHOGRAPHER . MANUFACTURERS OF PRINTING, LITHOGRAPHIC INKS AND SUPPLIES



### **EDITORIALS**



WE are convinced that "automation" is a troublesome word and that it should be drummed out of the language before it takes any firmer hold. For one thing, as we pointed out in an editorial in the June ML, it is not a *new* concept, but one that could be applied to some extent to every new device or technique ever recorded in the history of man, from the wheel and the stone ax to Univac.

For another thing, it implies a sense of completion or fullfillment that can lead to smugness and complacency. Perhaps it is not stated in so many words that the millenium will be attained when industrial methods are completely automatic, but the implication is there.

We fear that the image being created is this: right now industrial activity is in a more or less chaotic condition; with "automation," it will all be brought into a wonderful world of punch-cards and electronic brains.

However amazing our present achievements may be, it is safe to predict that the future will hold even greater ones. In lithography, for instance, we have no doubt that advancements of the next 20 years will make 1957 look like something out of the archaic past, almost as we now view old Senefelder and his first experiments with limestone as an image carrier.

All this was brought to mind by a statement issued last month by the Lithographers National Association. In it, president Carl N. Reed felt compelled to comment on recent publicity concerned with "automation" in the lithographic field.

Mr. Reed said that "such programs, which admittedly are irresistible, have captured the fancy and commendation of the nation's press . . ."

(Clearly, his reference was to publicity attending Edward Swayduck's widely-acclaimed "automation" talk at the ALA convention) "But as we read the comments we find there is something lacking. From the reports in these organs (N. Y. Times, N. Y. Herald-Tribune, etc.) one would think the idea of technological research was something new to lithographic management, and, in this instance, the particular brainchild of a single individual or a single organization. That is far from the case..."

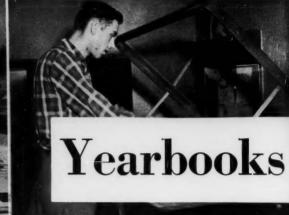
Notice that Mr. Reed's quarrel is not with Mr. Swayduck, nor the ALA, but with the *press* for presenting the story in such a way that the general public might think the idea of progress has just found its way into the graphic arts.

As the LNA president went on to point out, "lithographic management has been the most progressive and farsighted in the entire graphic arts during the past two decades." He cited the work of the Lithographic Technical Foundation since 1924, and the research conducted independently by the industry's major supply firms, listing some of the more important developments of each.

The ML staff knows, from first-hand experience, how tempting it is for the press to overemphasize dramatic statements and catch-phrases. That is why, although praising Mr. Swayduck and the ALA for their program, this magazine has been careful to present the story of research in lithography that goes back at least 33 years, and is going on right now, with more enthusiasm than ever. We shall continue this coverage in the future. In the meantime can we have a show of hands for deporting that misleading word "automation"? All in favor say "Madison Avenue."







Work flow at Rae: Left, Justowriter units used for cold-type copy for school newspapers (Mrs. Rae standing); center, repros

are adhered to dummy pages with wax, then rolled; right, cameraman places copy in camera at Montclair, N. J., shop.

'It is a very specialized field. Those who handle a yearbook like a commercial job . . . will lose their shirts.'

L ITHOGRAPHING high school yearbooks means more than just turning out a few hundred volumes at graduation time. For the lithographer it means being an adviser, a counselor and a teacher—of teachers and students alike. The job requires patience in gathering the material for printing and the energy to work as many as 80 hours a week when diploma time is at hand.

"Lithographing yearbooks is a very specialized field. Unwary lithographers who enter it with no experience and handle it as a commercial job



Another view of camera department at Rae.

either produce poor quality or lose their shirts."

Those are the words of Edward B. Rae, an offset printer in Montclair, N. J., who turns out something less than 100 yearbooks, in addition to some 70 school newspapers and a fair amount of regular commercial work. When he discusses the yearbook field, Mr. Rae speaks from years of experience that have taught him what can, and can't be done by the lithographer in this field.

Last month ML visited Rae Publishing Co. and was surprised to find it such a well-organized, progressive shop, in sharp contrast with so many other small town print shops which look like Gutenberg slept there, or, if not, it was only because he hadn't been in the neighborhood at bedtime.

Although Rae Publishing Co. is a relatively small shop, employing only 22 full-time personnel, it is modern in every respect with complete air-conditioning and the quality of its work attests to the efficiency of the operation.

Turning out yearbooks can be a hectic business, if the litho shop is poorly organized. As it is, even with its excellent work-flow plan, things get pretty frantic at Rae during May and June, when all the publications have to come off the press within a few weeks of each other. Production of this work calls for a detailed set of deadlines for all the schools, care in filing and processing material, which

starts arriving in the fall, and almost constant surveillance to make certain that everything will "fall together" at just the right moment with no omissions or mistakes. Seasonal employes swell the total personnel to 35.

To produce its yearbooks (by hot



Newspaper pasteup, with halftone "windows."

metal) and newspapers (by cold type) Rae uses two Intertype C-4's, just a year old, and an older model, in conjunction with four Justo-writer recorders, and four reproducers. Five IBM electric typewriters also are used, for headings and some captions.

### Preparing Yearbooks

Repro proofs of hot metal or reproducible copy from the cold-type equipment are taken to one of six



Strippers (left) use color-keyed flats to distinguish various types of jobs. At right is press room, which includes two

Harris-Seybold 22 x 34" presses. Presensitized plates are used exclusively by the shop, which specializes in yearbooks.

pasteup tables, where wax is used to adhere the various elements to the dummy page, with black squares of paper used as "windows" for 133-screen halftones, which are stripped in later. A 24" ATF process camera is used to shoot the copy, negatives going to one of the Gelb lineup tables for stripping.

Presensitized plates (Enco and Harris) are used exclusively in the shop, Mr. Rae explained, for quality, ease of operation and as a space-saving measure. Presses include two Harris-Seybold LTN's size 22 x 34". A modern Vandercook proof press has worked out very well, Mr. Rae said, for proving jobs. The company has no bindery, just a cutter.

"To handle so many jobs at one time," Mr. Rae commented, "we have found it helpful to use a color-code in our stripping department to make flats readily distinguishable. A Goldenrod sheet of masking paper indicates a straight job; yellow means a surprint; red is used for school newspapers; and an orange flat indicates a second color on a yearbook job." The system, he added, has saved time and prevented mistakes.

The shop is doing more and more color work, he stated, with some schools using four-color process shots of the school building on the inside covers of their annuals.

About 60 percent of Rae's work is yearbooks, another 20 percent school newspapers, and the remaining 20 percent commercial work, like a handsome illustrated booklet prepared by the Montclair Chamber of Commerce to promote the suburban North Jersey community, only about 20 miles from New York.

### Seeking Commercial Work

"We are seeking more general commercial work," Mr. Rae told ML, "in order to provide a more even level of operations." The last few summers, he advised, the company had been busier than ever, with presses working overtime on several occasions.

Mr. Rae's management policies are just as progressive as the physical equipment in his shop. The firm provides group life insurance, full hospitalization insurance for its employees, as well as medical-surgical coverage, gives a Christmas party for employes, their wives and children, and sponsors two bowling teams. "Furthermore," Mr. Rae pointed out, "we don't watch the time-clock around here."

The company is a member of the National Association of Photo-Lithographers, and makes good use of NAPL's bulletins and booklets, particularly those dealing with establishment of cost-centers to keep a realistic check on all costs.

Mr. Rae has been connected with printing for 33 years. He attended (Continued on Page 123)

Edward B. Rae examines one of nearly a hundred high school year-books produced in his all-offset plant. His wife is partner.





### 34

### growing litho markets

By Charles V. Morris

Assistant to the President Reinhold-Gould, Inc.

You're playing on a team certain to rocket the Gross National Product beyond the \$500 billion barrier by 1960. Even now business leaders and many noted economists are forecasting a fantastic \$600 billion GNP by 1965. Herman Strouse, president of J. Walter Thompson, world's largest advertising agency, sees annual advertising spending reaching \$15 billion when, and if, the GNP zooms to \$500 billion. Robert Kenyon, president of the Magazine Publishers Association, talks about \$25 billion dollar advertising spending by 1965.

This we know for sure: it'll take a heap of advertising and promotion to achieve this volume of manufacturing and merchandising.

But... even now, all kinds of signs confirm plainly that lithographers are standing on the threshold of graphic arts' greatest era. These signals should be of vital interest to everyone concerned with the creation and production of advertising. These signs should also fascinate everyone concerned with manufacturing the fruits of advertising's creative talent.

Graphic arts techniques are moving forward so swiftly these days it is scarcely possible to predict accurately the shape of things to come in the next 5, 10 or 20 years. But you can believe production developments you'll encounter within that period are more than laboratory projects now!

These graphic arts miracles . . . a subject for another discussion, incidentally . . . are certain to contribute vital impetus to the force responsible for crashing the \$500 billion GNP "barrier" three or four years hence.

(GNP for 1957, it is estimated, will reach \$430 billion. That is \$3 billion more than the 1956 total.)

### **Population Growing**

Whenever business leaders, economists, government officials and educators gather to chart the economic future, they see the record population growth of the 1960s sending sales curves slanting upward almost perpendicularly. Then, demands for food, beverages, drugs, clothing, homes, home appliances, furniture and automobiles are seen testing the ability of manufacturers to produce and marketers to distribute effectively and profitably.

Success of your company in this picture of the broadened marketplace of the future, will be geared to change and the agility, yes, and the ability, to move ahead with change. Your markets, like the markets of all other businessmen, are undergoing change.

Review some of these changes in terms of expansion alone:

- Overall advertising spending during 1957 will top last year's record \$10 billion by as much as 10 percent.
- 2. Direct advertising is seen reaching, depending on whose estimate you accept as gospel, to \$2 billion to \$3 billion during 1957.
- 3. Packaging—including the many and varied needs for lithography—zoomed to \$12 billion during 1956. The influence of effective packaging in merchandising and marketing programs, assures a constantly growing packaging market.
- 4. Point-of-purchase sales promotion material cost American business concerns \$1 billion during 1956.

P-O-P techniques and sales tools are considered essential forces in distribution.

There are other signs of growth, such as ethical drug advertising, (doctors receive annually more than 5,000 mailings); outdoor advertising, business forms, house magazines, and annual reports.

In New York, lithographers' sales during 1956 reached \$250 million. Add another 10 percent for 1957.

Make a note to start converting some of these facts and figures into your "billings." It's a fact, over the past decade, sales of lithography have hopped, skipped and jumped over 100 percent since 1947. And, while we're statistically inclined, remember, 40 percent of the nation's printing production is lithographed. Ten years ago, lithography amounted to only 30 percent of the total amount of printing.

Here are some additional facts to help your cause:

- Results of a recent survey made by Advertising Requirements among corporate advertisers and advertising agencies show that 53 percent of the advertising managers replying, and 60 percent of the production and art people in advertising agencies, say they "prefer" to work in the litho media.
- Another survey, this one made by Lawrence Chait of R. L. Polk Company, for presentation before the Direct Mail Advertising Association's Convention, revealed these startling figures: and, by the way, corrected many hitherto incorrect impressions: "advertising agency-produced direct

		PACKAGING										POINT-OF-SALE									
34 MARKETS FOR LITHOGRAPHY							03	m Paral	on Inc		100						10				
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4. Home-building materials & equipment						х				х				x	X 2	X 2	X 2	C X	1.		
5. Appliances; radio, TV			х	x :	X 2		X	X	х	x	X	x	x	X	X 2	X 3	X 2	C X			
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9. Transportation; Travel					1		1		1	x	x	x	x	x	x 2	X :	X 2	c x	x	1	
10. Chain Stores, Department Stores, Mail Order Firms	X	x		x	X	X 2	x			x	x	x	x	x	x ·	x.	xb	CY	1	-	
11.Aircraft Manufacturers	x		x		1	1	-		1	x		_	x	х	X Z	K.	X 2	2	1	1	
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13. Tires and Rubber Goods	X	x			X :		_	X	X 2	x	X	X	X	х	X 2	X	X D	K X	1	1	
14. Soaps & Cleansers; Drugs, Toilet Goods	+		x					Н	1	-	X	X	X	X	X :	X	X D	K X	4	+	
15. Clothing, Materials, Accessories	1	_	X			X >		X	4	x	X	X	X	X	X :	X	X	K 3	4	+	
16. Business Machines & Equipment	+	X				x 2		Н	-	х	X	-	X	-	X :	X	X 2	K 3	4	+	
17. Alcoholic Beverages	Х	x		X	X :	X 3	-	Н	-	х	Х	X	X	x	X	X	X	K 3	4	+	
18. Financial & Insurance	+	-		Н		-	+	Н	-	х	X	X	-	1	H	-	$\vdash$	+	+	+	
19. Communications, Radio, TV, Telephone, Telegraph	+	-	$\vdash$	Н	$\Box$	-	-	$\vdash$	-	X	X	X	X	X.	X	X	X.	8 2	4	+	
20. Paper and Paper Products	+	х		X	$\vdash$	+	+	$\vdash$	+	X	X	X	X	X	X	X	X	K 2	4	+	
21.Hi-Fi	x	X	x	Х	X	X	+	-	-	X	X	X	X	X	X	X	X	X 2	4	+	
22.Fund Raising	-	+	-	H	H	-	+	-	-	X	X	X	X	X	X	X	H	+	+	+	
23. Publishing - Newspapers	+	+	-	H	H	+	+	+	+	X	X	X	X	+	Н	X.	$\vdash$	+	+	+	
24 Magazines 25 Directories	+	+	-		Н	-	+	-	H	X	X	X	X	+	Н	X.	H	-	+	+	
25 Directories 26 Books	+	+	$\vdash$		H	+	+	+	$\vdash$	X	+	+	+	+	Н	$\vdash$	Н	+	+	+	
27 Business Services	+	+	+	-	H	+	+	+	$\forall$	X	+	+	X	X	X	$\vdash$	H	+	+	+	
28 Industrial Relations Services	+	+	+	-	H	+	+	+	$\vdash$	X	$\vdash$	+	+	+	H	$\vdash$	H	+	+	+	
29 Financial Services	+	+	+	-	-	H	+	+	H	X	+	+	+	+	+	H	H	+	+	+	
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30 Pamphlets (Foundations) 31 Greeting Cards	+	-	+	-	H	-	+	+	H	X	1	+	+	+		H	H	-	+	+	
32 Picture Postcards	+	X		X	-	X	+	+	H	X				x	-	-	H	-	+	+	
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34. Games and Toys	-	X	-	х	Х	x	X	+		x	1 2	X	X	X	X	-	-		-	+	

Space does not permit reproducing Mr. Morris's complete chart. Omitted is a section indicating that all 34 markets use lithography for "Company Publications" and that all use at least one type of "Direct Mail," including catalogs, broadsides, booklets, envelope inserts, presentations, blotters, product books, etc. Markets 26 and 30 use book jackets, inserts, book covers, end papers and complete books; Market 21 buys record labels, sleeves, librettos, etc.; Market 34 needs rule books, box covers, board covers, etc.; Markets 22, 23 and 24 buy letters, books, fillers and reports; Market 27 needs greeting cards; and all markets purchase stationery and virtually all magazine inserts for advertising their products.

mail," the report put it, "has increased 64.6 percent during the past four years."

The viewpoint many lithographers have been encouraged to embrace can best be illustrated by a quotation from Leo Cherne, head of the Research Institute of America. Mr. Cherne wrote in the Saturday Review:

"Business as a whole can console itself with the promise of unparalleled prosperity. But no business will be safe from the painful consequences of rapid change. The company that does not keep up with new developments and improvements will fall far behind. So will the firm that does not

keep abreast of user-patterns and user-desires.

"The next decade will be painful for businessmen who can't reeducate themselves. Throughout the economy there will be emphasis on youth that is coming along with new education, and with new ideas. Many of us will discover that in spite of our long experience, we don't speak the language of the new era."

It's true, our own graphic arts language generally is changing. Advancements in techniques, in materials and in equipment already indicate the need for a new — or at least a revised — dictionary of terms. Un-

less you're a student of graphic arts' goings-on, there are times when you feel downright illiterate.

### 34 Litho Markets

But getting back to the subject of my discussion, let's take a look at my chart of "34 Lithographic Markets." This is my conception of the marketing opportunities you enjoy. I offer it to you as a basic structure for building, first, a prospect list and then a sales program that will capitalize the expected opportunities. When you reread the chart's subheading, you'll agree I've short-changed you, in the title at least. Honestly, the

proposition is understated for convenience sake. The "34" "growth" markets as presented include these three major divisions:

1. companies in these 34 natural groupings

2. their advertising and their public relations counsel

3. their trade associations.

It isn't difficult to picture the great number of individual companies and divisions of companies that come to mind as you thumb-down the list of the "34" classifications.

And then, there are advertising agencies, which are growing in importance to you as prospects. Your own experience assures you. Also remember this: agency-produced direct mail has increased almost 65 percent during the last four years. By policy, today's advertising agencies participate heavily in the preparation and production of direct mail advertising. Many agencies delegate groups of creative people — idea, copy and art — for the exclusive development of direct mail programs.

### PR, Trade Associations

Pay special heed to the prospect area called public relations counsel, and to that other prospect-area called trade associations. Because, therein are to be found prospects you might not have identified as consequential contributors to the business of your plant.

Figures on the amount of billings of public-relations firms are not readily available, nor easily compiled, but you are safe when you estimate the annual printing bill as something over \$100 million. You needn't be reminded of the amount of lithography these public relations people develop for their clients. Almost every large concern trusts its public relations and educational projects to these specialists in creating favorable impressions. Employe relations literature, stockholder communications and, in many cases, official publications of many big concerns are known to be the cooperative editorial, design and production work of their public relations counsel.

A noteworthy example of a year 'round public relations project is rep-

resented by in-plant fire prevention and safety campaigns of the Hartford Fire Insurance Company. This adds up to big business for lithographers.

Another example: not long ago General Motors commissioned a public relations firm to prepare 52 booklets for distribution weekly to GM employes everywhere. Millions of lithographed booklets were involved.

General Mills, General Electric, Bristol-Myers, Westinghouse Electric and RCA are other firms maintaining contact by low-sell, public and customer-service projects. Literature mailed to schools alone by any one of these companies would provide your plant with a desirable volume of business, and a month-in, month-out flow or orders.

The trade associations of this group or pusiness interests represent greater prospects for lithography than you are likely to believe possible. There are hundreds of these organizations. One big-user of lithography is the Bureau of Advertising of the American Newspaper Publishers Association. This trade group promotes use of newspaper space and does its expert promoting with direct mail. American Dairy Association, a strong influence in the promotion of dairy products, this year is spending \$7 million, and there are many other examples.

### **Many More Markets**

By this time, you recognize "34" markets understates its case. Already the proposition offers three times 34 markets or 102 markets. Now, when you fine-comb the list of the "34 markets" presented in the chart, you see how the original proposition further fans-out. But from this time on, you're mathematically on your own. Trying to determine the mathematical fan-out of the original "34 markets" is like trying to compute the mileage run up by Sputnik #1.

- You can see Market Number 1 as dozens of refiners of gasoline and petroleum products of all kinds.
- You can see Market Number 2 as hundreds of canners of food, bottlers of beverages, packers of confections and operators of super mar-

kets. And you can easily identify the firms.

- You can visualize airlines, railroads, steamship lines, travel agencies, resorts and state vacation bureaus as one big chunk of Market Number 9.
- You can see GE, Westinghouse, RCA, Sylvania, Philco and other manufacturers and distributors of electrical equipment and supplies as your Market Number 5. And so-on down the list.

You can see these markets divided among advertising and promotion people for industrial purposes, and advertising and promotion material for consumer goods.

These are natural by-industry and by-business divisions, and the more you study the "34" groups, the further the "market idea" stretches. Prospects by the "jillion" actually dance before your eyes.

For almost every prospect in the "market"-picture as sketched, there are a variety of forces influencing business in your direction. Management, printing buyers, sales promotion people, advertising people, public relations departments, publications sections in the corporations; in the agencies, account-personnel, art directors, production people. These are the people to cultivate; these are the people who, saying they prefer to work in the litho media, should know about you and your company and what you have to offer them that no other lithographer can provide.

Many of the lithographed requirements shown in the market sketch represent manufactured products while other lithographed requirements represent packaging requirements.

Think about the opportunities for quality lithography in the design and production of the attractive covers of today's record albums. Here is packaging at its best, in a new market. Here are packaging needs you can fulfill. Think about all the other lithographed requirements of this "phenom" of current businesses. The mail order requirements of the record clubs alone stagger the imagination.

Many of these lithographed require-(Continued on Page 112)

### Safety Training Kit

By H. H. Slawson

Chicago Correspondent

THE National Safety Council's printing and publishing section has laid plans for fuller cooperation with the Council's nationwide "Back the Attack on Accidents" project. This will be done in the printing field by concentrating on efforts to extend use of the "do-it-yourself" Safety Training Kit (discussed in the August issue of MODERN LITHOGRAPHY). The plans were made at the annual meeting in Chicago Oct. 23-24.

The giant size of the printing industry is a tremendous obstacle to adoption of the accident prevention movement as promoted by the P. & P. section, declared Charles Shapiro, educational director of the Lithographic Technical Foundation, who was selected to present the training kit program to printing plant safety directors at the Chicago meeting. The industry, he stated, includes well over 40,000 units, employing an average of 10 men each.

Very little front line management, essential to systematic promotion of safety, can be found in shops with only 10 employes or less, Mr. Shapiro remarked. But progress is being made, he asserted. Initially 300 men have been trained in use of the kit and are qualified to conduct programs designed to teach front line management. From this start another 7,000 printing plant supervisors have been given an understanding of how safety meetings can be conducted among their men.

Safety Kit

The graphic arts safety training kit, prepared and published jointly by the National Safety Council and



Walter Smith, P & P. Head

the Education Council of the Graphic Arts Industry, includes a basic Safety Manual, discussing hazards of every printing operation and how to control them. Accompanying this are an Instructor's Guide and a Study Guide.

The entire kit, Mr. Shapiro said, "has borrowed the techniques of the home study correspondence course with the correspondence left out." There is no need to work at home for two hours planning your shop safety meeting, he explained, since the Instructor's Guide "almost puts the words in the instructor's mouth." All material needed to conduct each of 16 sessions is provided, including such details as the class leader's introductory statement, questions on the day's assignment, a summary of points covered, etc.

Supplementary material supplied includes data sheets prepared by the P. & P. section on such specific hazards as solvents used in lithography, and press controls and such universal industrial hazards as

ladders, steel strapping, fires and others. Posters and pamphlets and other material also are available.

Use of this kit is being promoted by local associations serving all types of printing processes, Mr. Shapiro said, and, as leaders are developed, he anticipates increased results from the effort to reduce the cost of accidents to the printing industry.

Safer Presses

Of interest to lithographers was a review of latest developments in building safety into the printing press, presented by Albert T. Kuehn, sales service engineer with Miehle Printing Press & Mfg. Co., division of Miehle-Goss-Dexter, Chicago.

Since World War II, Mr. Kuehn said, careful attention has been given to engineering of presses for safety, and many manufacturers are building safety devices into their equipment, as an integral part of the machine, not as an attachment.

Most important safety advance, he asserted, is the complete redesigning of presses to make them completely safe. He referred to changes in height of offset presses from high standing to low, streamlined models, which eliminate climbing and fatigue. Cams, gears and moving parts are enclosed in protective housings, eliminating hazards common to oldtime presses and, as he expressed it, "making it perfectly safe to walk up to a press, operating at full speed, and pat it on its side." He spoke, too, of the safety bar, which has eliminated many harrowing accidents at the most dangerous point on a press,

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# Small Camera Solves 'Sugar Cube' Problem



Some of the many different designs for sugar cubes, featuring the name of a company or a restaurant, produced with aid of small camera.

NEXT time you have a hamburger and coffee at a local drive-in, or in an exclusive club, take a look at a small piece of paper measuring 2 x 2½". This is a wrapper covering a lump of sugar, or a small individual paper packet of sugar. Countless numbers of these lumps and packets are used in such diverse places as New York's Stork Club, San Francisco's "Top of the Mark", the Pump Room in Chicago's plush Ambassador East Hotel, and in countless "Greasy Spoon" restaurants as well.

Little known, perhaps, is that 40 percent of all food consumed in the United States is eaten away from home. Sugar, hence, is a big item in this public food service. In the last 10 years a great change has occurred in the use of sugar. Gone is the sugar bowl, and rare today is the place that doesn't serve its sugar in wrapped lump or paper packet form. This means not only improved sanitation but tremendous reduction of waste. In another sense, the development moves the sugar lump into the advertising and promotion field - the paper wrapper or packet offers excellent opportunity to further brand name identification for the sugar manufacturer, and local house promotion for the establishment serving the sugar.

Every time we unwrap a lump or open a packet, we see the name of a sugar company on one side, and on the reverse the name or trademark of the place where we are using the sugar. Preparing and producing this multitude of wrappers is big business. Let's take a look at the job of preparing the offset negatives from which plates are made for printing sugar wrappers.

#### Creates New Business

Growth of the sugar business and the trend to paper-wrapped sugar has created a new, specialty business for one New York graphic arts firm. George Mayer, president of Display Designers and Producers, has carved out a profitable sideline business for his firm, producing the mechanical requirements essential to printing the finished wrappers and packets. Mr.

Mayer performs this service for one of the country's largest sugar companies.

Principal work of his firm is industrial and consumer product displays and advertising and promotion display pieces. In a separate studio suite in mid-Manhattan, nine employees create and produce the film negatives from which offset plates are made.

Mr. Mayer's firm, with four years of experimenting behind it, has evolved a work process which reduces each job to the simplest, most efficient and most economical techniques.

"While the process may appear to be, and is, quite simple," Mayer says, "the art work, type, camera work, paste-up and preparation of the final negatives are held to a high standard of quality. After all, our work is subjected to a most critical series of inspections — by our client, by his printers, by the establishment on whose tables the sugar will appear, and finally by the millions of Americans who will handle the sugar lump. We have never had a rejection by our client — and don't intend to"

One thing has made this business possible and profitable—a camera. In 1952, Mr. Mayer took on the assignment of preparing the wrapper master negatives for one of the leading sugar manufacturers. After a year's experimenting, he found the work too costly. He was forced to go outside for too many of his needs—photostats, type, halftone and line negatives. After a second year he had reduced costs some, but there still was no profit in the operation, and he was ready to give the whole thing up.

Mr. Mayer realized that his bottleneck was photography. Not being a photographer, and having no one on his staff who was, Mr. Mayer had only a vague awareness that a process camera was the key to the type work he was attempting. But he knew that such cameras usually are large, expensive units requiring considerable floor space and that their correct operation demands skilled professional photographers whom he could not afford. He was determined to explore all possible solutions before giving up.

### Camera Is Solution

A visit to a nearby Eastman Kodak dealer resulted in a solution to Mr. Mayer's problem. On its show floor Eastman had a Kenro "Vertical 18" process camera. The price was attractive and the space requirement was quite small. Dials and controls, film holder and copyboard were placed conveniently. Having no personal knowledge of the equipment, photographic process and techniques involved, however, Mr. Mayer was unable to judge either quality of end product or simplicity of operation of the camera. He brought two of his employes, neither having any photographic training, to Eastman for a short training course and bought the camera in 1955.

"Soon after," Mr. Mayer relates, "we showed profit for the first time. The camera is the workhorse of our operation and in the past two years it has been in constant use six days a week, and often seven."

Every working day in the year Mr. Mayer receives from the sugar company approximately 20 individual job orders. Of these, an average of 14 are wholly new jobs. The others are reruns requiring revision to conform to new addresses, telephone numbers, or trade-marks. An average of 100 such jobs are completed every week, each job taking about 48 hours. The end product is a one-color negative, or color separated negatives, either 2½ x 2" or 2½ x 2", normally for offset printing; occasionally for letterpress.

### Rough Sketch

Each job starts with a rough sketch incorporating the requirements of the establishment where the sugar will be used. This may be type only, or a trade-mark, an illustration or design, a reproduction of a photograph or a piece of art, or combinations of these. Work to be copied or adapted for printing arrives in many forms: an ash tray, from the bottom of which is to be lifted a seal; printed paper napkins, menus, photographs, sketches and match covers. Usually these are

simple, requiring a minimum of original art work.

A 5 x 7" layout is prepared. Design, or positioning of type and art, is roughed in. Type is selected from a library of 25 faces and set on film by a Filmotype machine. Choice of type size is flexible, since the faces available are readily enlarged or reduced on the camera, using autopositive paper or photostat paper.

The art, if reproducible in the form furnished, is photographed from the original object, and the resulting positive is incorporated with the type in a paste-up or mechanical. When new finished art is required, it is produced in the studio by the staff. In camera work, line shots are the general need, with few halftones being required.

When the mechanical paste-up, for one or two-color separations, is completed, it is put on camera and reduced four times, from 5 x 7" to 27/8 x 2". In practice, four 5 x 7" mechanicals are ganged on the 18 x 23" copyboard, photographed and reduced. They are opaqued, cut apart and contact printed to provide glossy proofs. Fifty percent of the work done is in color.

There are an average of five camera operations on each job. This means about 500 camera operations per week, resulting in thousands of negatives per month, but every employee of the firm, including the receptionist, can produce usable negatives, he says. Adjacent to the camera is a film supply room. Mr. Mayer estimates that his operation uses 4,500 sheets of Kodalith Ortho and Kodalith Pan film annually, mostly 5 x 7". In addition, use of 16,000 feet of Filmotype film annually makes Mr. Mayer the largest national user of that product.

### Quality Controls

Mr. Mayer has developed internal controls which put each job through expeditiously and efficiently, with quality inspection at each step. Except when new art is required, a job comes in and is processed; 48 hours later a film negative (or color separations) and three proofs are on their

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### quality control in

### **PLATEMAKING**

By Albert R. Materazzi

Technical Representative Litho Chemical & Supply Co., Inc.

7E HAVE been hearing a great deal, lately, about quality control not only in the lithographic industry but in industry in general. Advertising media all extoll the virtues of various products and then tell us how this quality is controlled. Who does not know, by now, that Chesterfield quality is controlled by "Accu-Ray"? Within our industry almost every issue of our trade periodicals has one or more articles on the subject. The Lithographic Technical Foundation is expending a considerable portion of its research time on this problem. The Foundation's "Research Progress" No. 38, recently out, has an article by George Jorgensen on the subject. (See also September MODERN LITHOGRAPHY, page 85.) The last two issue of RIT's Graphic Arts Progress" had a paper by Warren Rhodes covering quality controls in photography.

Just what is "quality control"? What does it mean? How can it be applied to lithography? In this article I would like to summarize the general subject briefly, discuss its concepts in general, set forth the principles of quality control as they have been established by our modern mass production industries and then attempt to apply these to one lithographic operation: platemaking.

Definition

Quality Control, in its broadest sense, refers to the systematic control of those variables encountered in a manufacturing process which affect the excellence of the end product. The end-product can be a self-contained unit or a part or an assembly of a



more complex unit. In modern industry it is common for parts made in City A and parts made in City B to be assembled in still another city. Unless tolerances based on detailed specifications are held, this would be impossible.

Lithographic platemaking is only one step in the entire lithographic manufacturing process but it is none-the-less a complete manufacturing process. The litho plate is, for example, the end product of a trade shop. It does not, however, fulfill its purpose until the run has been completed on the press. Consequently it is important that modern quality control practices be effected in order to insure that our plates consistently meet the requirements of the additional phases of the lithographic process.

Sources of Variables

We all know that there are quite a number of variables in platemaking. The Lithographic Technical Foundation has estimated that there are some 43 variables in surface platemaking all of which affect, to some degree, the excellence of the plate. Unless these variables are controlled in a systematic manner we cannot expect to control press operations so that the resulting press sheets will have the desired uniform quality.

As in all manufacturing processes, variables result from the interoperation of materials, men, machines and manufacturing conditions. Let us discuss these one at a time:

1. MATERIALS. All materials are in the final analysis derived from nature and are therefore subject to the foibles and caprices of nature. They will differ greatly as to composition and physical characteristics. For example, one of the most important prime materials in lithographic platemaking is gum arabic. It is the dried exudation of the Gum Acacia tree which grows in the Sudan. This tree does most of its growing during the rainy season from June to October. During the dry, hot spell from November to June the gum is formed beneath the bark of the tree in order to supply it moisture. It is during this season that the bark is scored. The gum exudes and dries. The solubility of the resulting gum usually is dependant upon the time of collection, that portion collected at the beginning of the dry season is not completely soluble and forms a stringy viscous solution. If such a gum were to be used in making plates we would get gum streaks and poor desensitization.

2. Men. As with all other workers, lithographic platemakers vary in their degree of skill, proficiency and application to their work. The same individual may vary in skill depending upon physical condition, state of fatigue and mental characteristics. I suspect that many a platemaker has had trouble because of the low quality (and high quantity) of the whiskey the night before or by how much trouble his wife gave him before he came to work.

3. Machines. Machines are built by men using the materials of nature. They are subject to wear and tear with use, and tend to go out of adjustment. They are operated by men, and the interaction between the human and mechanical variables introduces an entirely new set of variables. All this applies to the machines and equipment employed in the platemaking department. Gaskets will wear out in the photocomposer, are lights become dirty, thus affecting the exposure, vacuum frame glass will become scratched and pick up dust, etc.

4. MANUFACTURING CONDITIONS. Conditions such as temperature, humidity, dust and dirt in the air are factors that of themselves admit certain variations. Most experienced platemakers know that the coating on the first plate in the morning will differ from the rest as the whirler gets warmed up. He will allow a plate to condition itself for a short time before placing it in the photocomposer since the sensitivity of the coating changes rapidly in the first half hour after it is removed from the whirler. There should be no need to explain to lithographers how a variation in humidity affects the entire lithographic process.

Materials, men, machines and manufacturing conditions. If all the variables inherent in these were allowed to operate, uncontrolled, by a men's suit manufacturer he might get a size 28 one time and a size 54 the next, or worse yet a coat for one and trousers for the other. He could then expect the well-known complaint "Sam, you made the pants too long."

#### Factors Affecting Q. C.

Quality control should not be considered absolute, it must always be related to certain other considerations. First the word "quality" has no meaning unless the end use of the product is specified. Here the well-known bromide about buying a Cadillac when a Chevrolet would do applies beautifully. However it is true that under certain conditions a Pontiac would be just as useful as an Oldsmobile. Or, to use still another analogy, one should not use a two-ton jack to lift a ten ton weight.

Today the lithographer has available a variety of lithographic plates and a choice of procedures to make them. I am certain that none of you would attempt a million run with a paper plate, nor, would you in your right mind make a bi-metal plate for a 500 run. But there are many of you trying to stretch a zinc surface plate to 200,000 impressions on good quality work or on the other hand using polymetallic plates where copperized aluminum would suffice.

That leads to the second consideration affecting quality: "Quality" is an abstract word unless it is related to definable and measurable characteristics of the product involved. Thus the quality of a litho plate should be stated in terms of length of run required, quality of job, size and type of press and running conditions. Presensitized plates are capable of producing the highest quality work but are limited as to mileage on the press. Thus when a long run of high quality is required it is necessary to use a tougher plate which will produce the same quality. The definable characteristic here is length of run which is measurable as long as we have counters on the press. It is possible to define and, within limits, measure the characteristics of all litho plates. This should be a first step in the selection of the proper plate for the job.

The third consideration related to quality is the economics of manufacture. This affects the degree of quality control which is exercised during the manufacturing operation. If a lithographer were to apply all available quality control procedures to every lithographic plate he would either price himself out of the market

or go bankrupt. Nonetheless, he will find that some degree of quality control is economical and will pay off in satisfied customers, repeat orders and higher profits.

Consequently quality has a bearing on a fourth consideration: manufacturing costs and selling price. High quality generally results in high cost of manufacture. Relaxation of quality standards often permits costs and hence selling price to be lowered. Not all printed pieces need be of the same quality as a beautiful art reproduction. It is silly therefore to exercise the same control over plates for a simple black and white line job as is exercised over plates for four color process work.

Finally quality has a bearing on quantity. The higher the degree of quality demanded, the tighter become the controls imposed on the manufacturing process and the more difficult it becomes to achieve quantity output. Needless to say it would be asking too much to have the same number of operators with the same equipment make the same number of deep-etch plates as they are capable of making surface plates.

#### Quality Control Responsibility

It is easy to say that quality control is the responsibility of everyone in the plant. Still there must be someone in the plant organization who has the responsibility to formulate policies affecting quality control, administer these policies and make decisions in border-line cases. In large mass production industries which manufacture precision products this responsibility usually rests with the inspection department. The program is administered by a quality control manager operating directly under the top manufacturing executive, usually the plant manager.

Only our largest lithographic plants can afford this. Consequently the general practice is to have the operating foreman responsible for both quality and meeting production schedules. This is admittedly risky since when rush orders arise or the pressure is on quantity, production personnel

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# WEB OFFSET

Web press will print and fold 50,000 32pp signatures in 1/6
the time and at 51% of cost of sheet-fed perfector, say the
authors. Web offset can save time and money for you if you have
the particular type jobs that fit on a web-offset press.

By Douglass E. Murray
General Sales Manager, Web Fed Division
and

Chris Foss

Cost Analyst and Plant Layout Sales Engineer American Type Founders Co., Inc.

PRODUCTION possibilities with web-fed offset presses are enormous if the work to be done is applicable. The application of this type of equipment to different kinds of printing is so large that we could not hope to cover anything like the entire field in an article of this kind, but we can get some kind of idea of the production possibilities on web-fed equipment if we compare production costs with sheet fed printing equipment to print a similar product.

A 32-page signature printed in one color is a good product to use for comparison purposes and we shall compare the cost of printing only, on presses of suitable sheet size. The form to be printed is shown in Fig. 1.

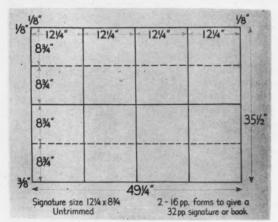


Figure 1

To make our example simple, we shall use the maximum untrimmed signature size of the 35 x 49" web fed magazine press, which is the signature size  $12\frac{1}{4}$  x  $8\frac{3}{4}$ ".

Now, if you refer to Fig. 1 you will note that the

layout is  $35 \times 49''$  sheet size. Actually the layout as illustrated is  $35\frac{1}{2} \times 49\frac{1}{4}''$  which is a sheet press size. The web-feb press which we are referring to in making these comparisons is a  $35 \times 49''$  press. The comparison must therefore be between presses of a press size which will receive this sheet with least waste and among presses that have the highest production ratings.

We might as well include letterpress in this comparison since a great many magazines, books and catalogs are printed by that process. To give web-fed offset equipment the stiffest competition comparison possible with sheet-fed equipment, a lineup of the group of presses to print a 32 pp signature,  $12\frac{1}{4} \times 3\frac{3}{4}$  is shown in Fig. 2.

Press	Plate Size	Transfer Size	Speed	Floor Space
36×49½ Single Color Press	40×49½	35%×49	6500	20'-6"x!0'-6"
38 x 53½ Perfector Press	43×53½	37×53	5500	21'-0"x 11'-6"
41½ x 56 Auto Letterpress			2250	29'-3"x 10'-0"
35x49 Webfed Offset Press	35×49		15000	30'-0"x 12'-0"

Figure 2

In Fig. 2 you will see that we have under the heading "Press" a  $36 \times 49\frac{1}{2}$ " single color offset press, a  $38 \times 53\frac{1}{2}$ " offset perfector press, a  $41\frac{1}{2} \times 56$ " automatic letterpress, and the  $35 \times 49$ " web-fed offset press. Under successive columns we show "Plate Size," "Transfer Size" and "Speed." Note the speed for the various presses: 6,500 per hour for the  $36 \times 49\frac{1}{2}$ " single color offset press, 5,500 per hour for the offset perfector press, 2,250 per hour for the automatic letterpress, and 15,000 per hour for the web fed offset press.

**Key Cost Comparisons** 

Key cost comparisons will be shown in this paper.

From an address delivered at the 25th annual convention of the N.A.P.L., Chase-Park Plaza Hotel, St. Louis, September 13, 1957.

We shall consider only those costs that differ between (1) offset and letterpress and (2) between the several offset presses. The operation of press lock-up, press makeready and press running for letterpress (without the cost of any electros) is compared with the cost of copy preparation for the camera, negatives, stripping, platemaking, makeready and press running for offset. We will omit the costs of composition, paper, ink, etc., and assume that they are pretty much the same for all types of presses.

The comparisons between the several offset presses will be based on the difference in the cost of making plates, the makeready and the cost per thousand impressions. To arrive at these various cost factors, time standards and hour costs are used.

For lithographic operations, the time standards compiled by Fred Hoch Associates, and distributed by the National Association of Photo-Lithographers were used. For letterpress operations of lock-up, makeready and press running, the time standards appearing in the Green Book of the New York Employing Printers Association were used.

In this comparison, costs are not intended to be absolute, but rather relative. From the time standards and hour costs used, a ratio of printing cost can be established, even though costs in a specific plant may be different. Remember, as we look at these figures, that these are not absolute figures and that they would change according to your specific plant operation.

The production data between this group of presses, such as hour costs, makeready time, etc., is shown in Fig. 3.

	HOUR	Make-red	ody Time	AV.	
PRESS	COST	1 st.	OTHERS	IMPR.	IIMC
36 x 49½ Single Color	\$16.90	1.06 hrs.	.75 hrs.	4362	.23 hrs
38 x 53½ Perfector	23.41	1.5 hrs.		3800	.26 hrs
41½ x 56 Letterpress	14.61	8.0 hrs	8.0 hrs.	1900	.53 hrs
35 x 49 Webfed Offset	27.87	1.0 hrs		12000	.083 hrs

Figure 3

In Fig. 3, we carry data on four presses, and also the hour costs for each press. Incidentally, the hour costs of the presses shown here are hour costs as published by the Graphic Arts Association of Illinois. Where the hour costs have not been published, as in the case of the web-fed offset press, they have been calculated on exactly the same basis as the others.

Fig. 3 shows, in addition to hourly cost, makeready time and average impressions per hour: 4,362 sheets for

the 36 x 49½" single color offset; 3,800 sheets for the perfector; 1,900 sheets for the 41½ x 56" letterpress; and 12,000 sheets for the web-fed offset. The last column headed "Time" notes how long it takes a press to print 1,000 impressions.

Press	Plate	Make- ready	Total							Presswk. & Folding Costs	NO SERVICE AND ADDRESS OF	of Printed d Signal	
	Costs	Costs	Prep.	per M Sigs.	4м	25 M	50 M						
36 x 49½ Single Color	158.84	130.59	\$189.43	\$10.77	1233.47	±458.68	:727.93						
38 x 531/2 Sheetfed Perfector	161.14	35.16	196.30	9.09	233.47	423.55	650.80						
35×49 Webfed Offset	166.00	27.87	193.87	2.81*		264.12	334.37						
41½ x 56 Letterpress	Lock-up 27.81	233.76	261.57	18.49		723.82	1186.07						

Figure 4

#### Cost of Plates, Makeready

Here is how this comparison works. In order to clarify some of the tables that follow, we shall run down the cost of the plates and makeready, and the cost of press running per 1,000 signatures for one press only; that is the 36 x 49½" single color sheet-fed offset. Corresponding costs for other presses are obtained in precisely the same way. In the table of time standards, the time required to coat, expose in a vacuum frame, develop and etch a Class A albumen plate is .88 hours for the 36 x 49½" single color press.

Therefore, .88 hours  $\times$  \$9.37 hour cost equals \$8.25 plus \$2.81 preparation time, equals \$11.06. \$11.06  $\times$  2 plates equals \$22.12. Two metal costs per "use," figuring on six regrains and seven usages of each plate, or \$3  $\times$  2, is \$6. The total plate cost for two plates, \$22.12 plus \$6 equals \$28.12. This is how we got the plate cost.

As shown in Fig. 4, for a 36 x 49½" single-color offset press, the plate cost is \$158.84. This is the cost of the negatives, the cost of photographing and the developing, and the cost for the use of the plate. The negatives were about \$130. The makeready cost is \$30.59. You can see from the previous charts that the makeready time was something over an hour for the first form and about three-quarters of an hour the second time through, and that time consumed multiplied by the press hour cost was \$30.59.

The total preparation then is the cost of both items, or \$189.43. The press work and the folding cost of 1,000 signatures is \$10.77. So, if we are to arrive at the cost of 50,000 signatures printed and folded, it comes to  $50 \times $10.77$  plus \$189.43. That gives the cost of 50,000 signatures printed on a single-color press. In a similar way we have arrived at the cost of 50,000 folded and printed signatures on the sheet-fed perfector, on the web-fed offset and on the letterpress.

These charts reveal several interesting things. In webfed offset, it is far cheaper to print and fold than it is to print on a 56" sheet-fed letterpress and folder separately; or to run on either of the other two sheet-fed offset presses.

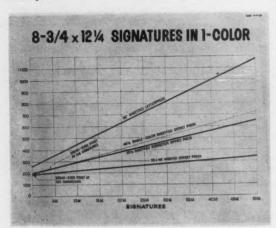


Figure 5

#### **Break-Even Points**

We will now show in graph form, Fig. 5, how these figures shape up. There are two break-even points shown on the graphs of these production costs. For example, the 35 x 49" web-fed offset press has a total preparation cost of \$193.87 as compared with \$189.43 for the sheet fed 36 x 491/2" single color. (See Fig. 5). That is a difference of \$4.44 which the web-fed equipment must recapture before it becomes more economical than the single-color sheet-fed press. It will recapture the \$4.44 because it can produce 1,000 printed and folded signatures for only \$2.81 as compared with \$10.77 for the single color. That is a difference of \$7.96 for each 1,000 signatures, or the rate at which it will overtake \$4.44. Therefore, \$4.44 divided by \$7.96 equals 557 signatures. the point at which \$4.44 has been collected by the webfed press. From then on web-fed simply runs away from the single color sheet fed press.

While 557 signatures is indicated as the break-even point between these two presses, I want to make it perfectly clear that we are talking about comparative printing costs only. We realize that other elements enter into the determination of the break-even point. For example, paper spoilage is greater for web-fed, but at a lower cost per pound of paper, than for sheet-fed equipment. We know plants that run 1,500 signatures profitably under certain conditions, but here let us start the cost line on web-fed equipment at 5,000 signatures and go on from there.

Fig. 5 shows a number of signatures on the bottom of the chart with the cost along the side. The break-even point mentioned is the mathematical break-even point. However, it is not the realistic break-even point.

We would be fools to say that the break-even point for a web-fed press is 557 signatures. In a similar manner, a break-even point is calculated between the sheet-fed single-color and sheet-fed perfector presses. While this is of no particular concern in this study, it is interesting to note that the sheet-fed perfector press overtakes the single-color press at 4,000 signatures and from that point on, is the more economical press.

#### Comparison of Press Costs

To summarize thus far, the web-fed offset press will print and fold a quantity of 50,000 32 pp signatures at:

- 28.19 percent of the cost of the combination of a 56" letterpress and folder.
- 45.93 percent of the cost of the combination of a 49½" offset press and folder.
- 51.37 percent of the cost of the sheet-fed perfector and folder.

But, that is not all. There is a time factor in this comparison too that must be considered. The difference in time to make plates for the three offset presses is so small that it is not considered here, because it would make such a small difference in the final time comparison. On the other hand, much more time is necessary for makeready, printing and folding, and these are the three time factors we will now compare.

From the chart on production data, we find the makeready time and the time to run 1,000 impressions. With this data, we will calculate the time needed to run 25,000 and 50,000 signatures and show the data in Fig. 6.

Press	Make- Ready Time		Press Running per M Sigs.		
36 x 49½ Single Color	1.81 hrs.	,33 hrs.	.46 hrs.	21.56 hrs.	41.31 hrs.
38×53½ Sheetfed Perfector	1.5 "	.33 "	.26 "	16.25•	31.00*
35 x 49 Webfed Offset	1.0 "		.083*	3.08*	5.16 *
41½ x 56 Letterpress	16.0 "	.33 "	1.06 "	50.75*	85.50•

Figure 6

First let us take the 36 x 49½" single-color offset press. The makeready time for the two forms is 1.81 hours. The folding time per 1,000 signatures has been calculated. The hour cost on the folder used was \$9.03, and production on the folder was 3,000 per hour, so the cost per 1,000 folded would be 1/3 of the \$9.03, or .33 hours, and the press running per thousand signatures was .23 of an hour for once through the press. However, we have to go through the press twice, so .46 hours is needed for going through the press twice.

We are figuring on 50,000 signatures in our comparison, so to arrive at the time to print and fold 50,000 signatures, it will be the sum of the decimals .33 hours

(Continued on Page 123)

# L.T. F.: current publications, financial picture

By John F. Perrin

President, Lithographic Technical Foundation

RESEARCH at the Lithographic Technical Foundation for the benefit of the industry is going on and its contributions are greater and greater every year, within the limits of its manpower and its budget.

I have no doubt, from what I have already learned in the past two years, that the majority of the work being done is right on the beam. However, what we want to see is not 70 percent or 80 percent, but as near to 100 percent as we can possibly determine, being used in the direction that is going to help those of you who are invested in the industry. Also, to see that the maximum amount of research management and research men's time is freed for research and not tied up attending meetings and such which is non-productive.

#### **New Publications**

Relative to our educational department, this year, by good fortune, we're going to publish five or six publications, most of them based on research, that have been years in work. Here is a list of the publications either already issued or which we expect to issue this year.

#320 — LTF COLOR CHART. This gives a complete description of the LTF color chart designed by our research laboratory and furnishes details concerning its various uses.

SKILLED CRAFT TEXT #502 — Offset Surface Platemaking is about ready now and members of LTF will receive their free copy in a short period of time. This surface platemaking volume replaces the original text published in 1945 under the title Offset Platemaking — Albumin. The brand new edition fully reflects the changes in techniques and material which have been taking place in the last 12 years — largely through the work of LTF's research department.

In addition to the conventional procedures for making albumin plates, the author of this excellent 194-page text has covered such items as measurements in platemaking, counter-etching, light sensitivity of surface coatings, removing and adding work, and many other items. It should prove to be a real help to the industry.

TECHNICAL BULLETIN #308 — What the Lithographer Should Know About Paper. Since 1927 this and other LTF publications have been the lithographers' "bibles" on paper handling and problems in the lithographic plant. This has been especially true with respect to lithographing on coated papers. A compilation of all these publications was issued in 1949 and there has just gone into typesetting a completely rewritten second edition of this important and famous LTF publication.

Packed into approximately 168 pages with 97 illustrations the reader will find the latest information on manufacture of paper, lithographic paper troubles and subjects covered in the first edition of 1949. This new edition will include also complete treatment of such items as requirements for printability of offset paper, paper properties versus print quality, handling paper in the pressroom, air conditioning and paper testing.

Instructional Bulletin #807 — How to Make and Run Surface Plates

on Aluminum. This publication will round out our series on surface and deep etch platemaking on both aluminum and zinc. These bulletins were written primarily for the skilled manon-the-bench and bring to him the very latest information for each of the platemaking techniques, in separate volumes for ease of applying the information.

#### Publications in Work:

The following publications now are in work:

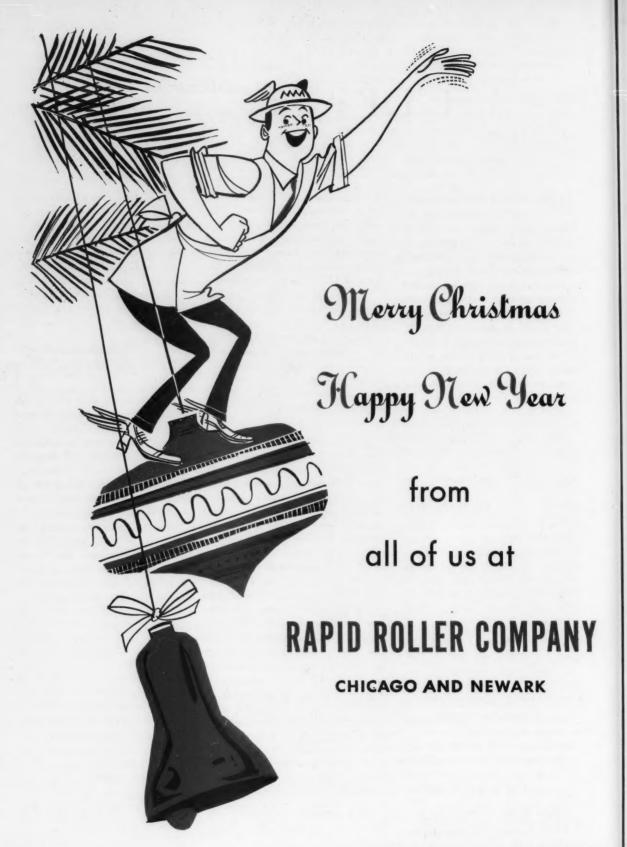
SKILLED CRAFT TEXT #507, Offset Stripping (Black and White). This is a complete revision of an original training text published in 1945. A special feature of this book is a complete treatment of the arithmetic, trigonometric, and geometric construction which the good stripper should know.

There are chapters covering the setting up of the stripping department, planning of the jobs, layout and imposition, all stripping operations, photographic expedients, and proving. A final chapter covers the common difficulties associated with this important craft.

SKILLED CRAFT TEXT #509, Offset Photography (Color Separation). The new edition of this Skilled Craft text, first published in 1945, was originally scheduled for distribution in 1956. However, the tremendous impetus given to the laboratory's research program as a result of Frank Preucil's joining the staff, made it worthwhile to hold up on this until the manuscript could receive the benefit of his advanced thinking in

(Continued on Page 113)

From an address delivered at the 25th annual convention of the NAPL, Chase-Park Plaza Hotels, St. Louis, Sept. 12, 1957.



### Trouble Chart for Lithographic Pressmen

TROUBLE	TERM	CAUSE -	POSSIBLE CURE
ink not rub-proof after drying. Will offset or scuff in some binding operations.	Chalking	Ink vehicle has been absorbed by paper, leaving pigment in chalky condition on top of sheet.	Use a stiffer ink or a less absorbent paper or a faster drying agent.
Paper blisters or particles of coating adheres to blanket.	ters or particles of Picking Coating not suitable for stock is weak or in Or too much back pres		Soften ink slightly. Reduce back pressure to minimum. Change paper.
Part of image on plate does not take ink.	Blinding	Gum adheres to surface of lacquer. Image is worn off plate.	Wet wash plate. Use non-blinding lacquer. Re-adjust rollers and pressure. Lower blanket.
Steel rollers refuse to take ink.	Stripping	Fountain acid and gum have desensitized rollers.	Counteretch rollers. Copperize rollers. Use less gum in fountain solution.
Ink does not dry flat. Some areas dull and others shiny.	Mottling	Paper not of same porosity all over sheet. Driers not evenly distributed in ink.	Work driers in more thoroughly. Try another paper.
Ink changes hue or lightens under exposure to light.	Fading	The pigment is fugitive or a poor vehicle was used. Too much compound or extender or acid.	Use a light-fast ink. Use less compound, extender and acid.
One color does not adhere properly on a previously printed color.	Trapping	First color has crystallized. The surface has dried tight from a cobalt type of drier.	Use a paste drier without cobalt on all colors that are to be overprinted.
Gloss inks dry dull.	No Gloss	Paper not glossy. Paper absorbs too much vehicle.	Use a high gloss paper especially suited to gloss ink printing. Adjust ink to set before too much absorb- tion takes place.
Indistinct image patterns appear in solids.	Ghosting	Poor layout of sheet. Emulsified ink. Too much water being run on plate.	Change layout. Change ink. Use plate that requires less water.
Second plate on two-color press, scums over first color area.	2nd color pick-up	First color ink transfers to second color blanket and sensitizes second color plate.	Use better desensitized plates. Run blankets lower.
Ink requires excessive length of time to dry.	Slow drying	Too much water and too much acid used on plate. High humidity of paper and atmosphere.	Use better plates so that less water and acid are necessary.
Radial band of ink appearing on non-printing areas.	Catch-up	Dirty or dry dampeners or parts of dampeners not touching plate.	Re-cover dampeners and re-set them.
Areas of non-printing surface taking ink.	Seumming	Plate poorly desensitized. Incorrect fountain solution p.b. Ink greasy or soupy. Running too much ink. Dirty dampeners.	Correct plate and solution p.h. Stiffen ink. Use stronger and less ink. Clean dampeners.
Light tint appearing all over sheet. Can be washed off with sponge.	Tinting	Ink and water forming an emulsion.	Run less water on plate. Use a more water resistant ink. Try a different paper.
Gray and weak printing with granular look.	Graininess	Ink is waterlogged and in a caked condition.	Same as above.
Shadow dots and reverse letters fill up.	Slur	Over pressure or blanket too high.	Reduce pressure. Remove some packing from under blanket and put it under plate.
Ink piles on blanket and rollers.	Piling	Too much water in ink. Coating of paper unsuited for offset. Ink too short.	Run less water on plate. Try another paper. Long varnish in ink.

This trouble chart is printed with the permission of the Lithographic Division of the New York Employing Printers Association, Inc., 461 Eighth Ave., New York 1. The education department of the Division prepared it under the direction of Charles E. Latham. It is published here as a guide to the beginner and as a refresher for the experienced pressman.

# Chicago Lithographic

ONE of the most unique training schools in the lithographic industry is now concluding its eleventh vear in Chicago with an over-flow of students from both management and labor. The school, known as the Chicago Lithographic Institute, is jointly sponsored by Local 4, Amalgamated Lithographers of America and by the Chicago Lithographers Association. The Institute was established in 1946 to meet the shortage of craftsmen following World War II and for the purpose of "establishing, maintaining and operating a school of training in the art, craft and business of lithography."

These organizations realized a definite need for an organized training program to assist the lithographers of the Chicago area. Chicago now claims 20 percent of the billion dollar industry volume. Local 4 itself has more than 5,000 members. (Local 4, incidentally, ran its own training school for 30 years before the Institute was started.)

#### **Employers Pay Tuition**

The Chicago employers provide the tuition, which is approximately \$115 a semester for an apprentice. Local 4 provides the housing, and helps pay for the teachers and Institute director. Equipment manufacturers lend the latest litho equipment to the school. Under the labor-management contract between Local 4 and Chicago employers, an indentured working apprentice must attend the school. It is a two-year course with four semesters. Classes are held mostly in the evening. Tuition is used to defray

operating expenses. Approximately \$80,000 is invested in the school annually. The Institute has a full time staff and Director, John Martin, who works for both labor and management. Mr. Martin, who has a BS degree in Chemistry, formerly was a research chemist with the Lithographic Technical Foundation.

The school staff constantly reevaluates courses and now develops its own visual aids. Management reports that it now gets a better qualified group of craftsmen as a result of the excellent Institute training.

#### Well-Rounded Program

An outstanding feature of the training program is an Institute teaching system which seeks to expose the apprentice to all phases of lithographic production. When the student completes the course he really understands his job, because the training program seeks to break craft isolation. The platemaker completing his course also is taught to understand the problems of the pressman and the cameraman. The tendency in the industry is to specialize and isolate skills but the Institute program avoids this. All trade secrets and "tricks of the trade" are washed out. The apprentice not only learns "how to" but "why"!

According to Harry Spohnholtz, president of Local 4, "the Institute training provides good skilled craftsmen and teaches the apprentice how to fullfill his obligations on the job."

The Institute is a corporation, with Local 4 and employer representatives jointly sitting on the board of directors. Even non-union shop executives

have been seated on the board in the past. Any gainfully and actively employed lithographer, apprentice or journeyman, in the Chicago area, can attend the Institute whether or not he is a member of the union. The board of directors decides on policy, courses, etc.

#### Veterans Were First

At the outset, students were Veterans Administration trainees in the strict craft courses. Now, in addition to craft courses for apprentices and journeymen, the Institute offers noncraft courses in estimating and chemistry. An evening intensive course for management executives also is offered. An employer can send a junior executive or salesman to the Institute for the evening intensive. This course gives the executive an intensive course in all phases of litho production, thus exposing him to basic procedures and language of the industry. This is an excellent program for management when it does not have time to put the executive through a training program in its own plant. The management individual learns to do with his own hands each phase of a job - thus providing a basic understanding. There is no half training for anybody at the school.

The Institute reports it is plagued with people who want to get in — youngsters out of service, letterpress personnel and others. Eighteen students now are enrolled in the Institute from open shops not in Local 4. The USAF recently selected the Institute, despite the fact that its bid for the contract was high for specialized training of Air Force personnel in

Three typical scenes at the Chicago Lithographic Institute, a cooperative labor-management sponsored school founded in 1946 as a non-profit school.

# Institute

litho work. More students from the USAF are expected in the future.

Mr. Spohnholtz reports that the Institute is constantly investigating every avenue of new courses, keeping abreast of technological progress and new equipment. It offers the most up to date equipment and methods. "There is nothing new in the industry that isn't taught in the school," the labor leader adds. According to A. B. Macready, executive director of the Chicago Lithographer's Association, "Management and Labor are vitally interested in the future of the school as a guaranteed source of top skills as lithography grows."

The basic responsibility of the Institute, adds Mr. Macready, is to train the apprentice. The Institute has had many overseas students who come to the USA primarily to attend the courses.

#### Course for Manufacturers

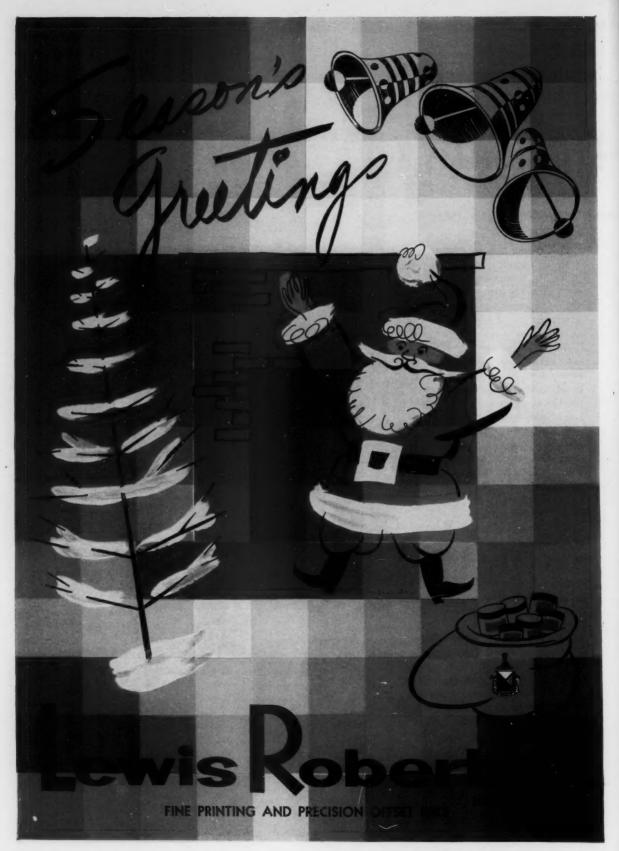
A new feature of the Institute is day-time courses for major manufacturers. Such firms as Kimberly-Clark, West Virginia Pulp and Paper, Roberts and Porter and Ford Motor Co., have sent sales personnel to the Institute for the evening intensive course. In most instances, the manufacturer pays the tuition of the individual sent to the school.

The Chicago Lithographic Institute is the only jointly labor-management sponsored training center of its kind in the lithographic industry. It sets a pattern that is a model of labor-management teamwork and it is an example of enlightened self interest that might well be followed by other industries.\*









# Budgeted Hourly Costs are SOUND if

- they reflect productive hours . . .
- they include every penny . . .

By John F. Coffey

Secretary, Photo Reproduction Corporation, New York

DO BUDGETED hourly cost rates make for sound estimating? Let's see what we mean by sound budgeted hourly costs. Budgeted hourly cost rates are sound providing:

1. They reflect as closely as possible the productive hours we believe we can sell for each cost center over a future period of time, and

Provided they include every penny which we will have to spend in each of the specific cost centers over the period of time budgeted ahead.

It's easy to guess how many hours a cost center may be productive. However, it is much better to know from past performance that in each cost center there were so many productive and non-productive hours.

It is very important not to overestimate the total number of your productive hours. My experience in our plant has been that 75 percent for the offset presses and an average of 65 percent for the photochemical departments is a normal percentage of productive time.

#### Easy To Err

How easy it is to make the mistake of budgeting, say a 24" camera over 75 percent on one shift throughout the year, or worse than that to budget the same camera over 75 percent on two shifts when actual productivity for this camera may range from 50 percent on one shift to 60 to 65 percent of the available hours on two shifts. I'm sure many lithographers hesitate to budget a camera at as low a rate as 60 percent on one shift, even when they have low productivity.

Budgeted hourly rates in so far as productivity is concerned are on a sound basis if they are based not on an arbitrary percentage of productivity throughout the year, but rather on a definite record of average productive hours put in over past years.

If again, a camera is operated only occasionally on a second shift, then good business should dictate that this second shift productivity time should not be included in setting up the budget on productive hours.

Budgeted hourly costs should reflect every expense dollar that can be anticipated in the days ahead, not on the basis of the dollar laid out, for example, before a wage increase is to be put into effect.

Great care should be taken to see that items of cost that may appear to be inconsequential are not overlooked. Such expense items as gifts to customers or employes, a company picnic, a sales campaign, an adequate allowance for spoilage, and similar costs, should be carefully measured in advance and their total cost included in budgeted hourly cost rates.

Such supply items as blankets, molletons, chemicals, developing ink and many other items of supply which make up the direct supplies cost end of budgeted hourly cost rates frequently increase in price, and unless provision is made to adjust budgeted hourly cost rates periodically, I can hear the lithographer say, "I can't understand how it is that we come up at the end of this fiscal period with a red figure."

Now of course where budgeted hourly cost rates are set up to allow for a full share of idle time and the increases in labor and supplies, then the lithographer is using budgeted hourly cost rates on a sound basis. Better a little too much than a lot too little.

Have you ever figured out how much your firm spends for film, ink, metal and graining, paper, etc., and how the total of these costs relate to sales?

#### Survey Your Markups

I believe it would prove most interesting if you would make a survey of your average mark-up on all of your outside purchases — paper, ink, plates, film, and outside work — then add up the figures so a comparison could be made with your net profit for the year (before taxes). My guess is that many firms would find that much of the money they they had made as a result of markup of outside purchases had "gone down the drain" as a result of departmental losses incurred in "in plant" operations. This does not necessarily in-

(Continued on Page 112)

From an address delivered at the 25th annual convention of the NAPL, Chase-Park Plaza Hotels, St. Louis, Sept. 12, 1957.

A Study of a Simplified Method for Building Budgeted Hourly Cost Rates in a Lithographic Plant 181 National Association of Photo-Lithographers 317 West 45th Street Copy No. Issued to \_ 



#### Newspaper by Offset

Dear Sir.

Count us in as one of the weekly newspapers being printed by the offset process. On a Harris S8L we are running a fourpage section of our weekly paper and like the process fine. Get some good ideas from the experts in your magazine, and it was my privilege to attend an LTF clinic this year in Austin, Tex., and really see some of these national research experts in

> Sam W. Burns Harlingen Press Harlingen, Tex.

Mr. Burns submitted the following fascinating description of how his company got into offset several years ago-

"You'll have unshirted hell!" said the publisher with experience to whom I talked three years ago about changing from letterpress to offset production of our weekly newspaper.

And, after some practical offset experience we think he was correct. However, we would still make the change, despite the troubles. We have had, and still have, some few problems in letterpress, as we run a typesetting machine with quadder, a fast automatic platen press, and still have a few cases of hand type in the plant.

The crying need in the field is for a web press which would produce a really large circulation weekly or small daily. The offset process adapts well to ad, news and photo reproduction, but a web perfecting press in financial reach of the small pub-lisher has not yet appeared. There are some fine fast web presses built, but the price tag, a casual \$50,000 or more, scares off most weekly or small daily publishers. These presses will produce 20,000 signatures hourly, and will run constantly, accounting for the high cost.

We use an automatic sheet-fed press, printing 4 pages, 7-columns, 11-em width, at a time. This press is used also for other than newspaper work. We produced a 400page city directory using cold type which would have been unthinkable by letter-

A transition is taking place to cold display type which offers even greater flexibility and economy. Many short cuts to production of lettering and type composition are becoming available and more progress is anticipated. Most all systems are good, and we will likely have a choice of display production, just as we have a choice of makes of automobiles and brands of breakfast food

Great strides have been made in the last two years in plate processing procedures. We have not yet used presensitized plates, but they are probably all right. We encounter no great difficulty in coating and printing our own plates, using about half the care and cleanliness your wife uses in the kitchen every day.

We print 150-line halftones on newsprint; have eliminated 90 percent of our stereotyping. Time being vital, it is possible to makeup four pages in 30 minutes, after type is set and proofed, negatives made in another 30 minutes, and a plate made for the press in still a third half hour. Depending on need and practice, this schedule could be speeded with understanding assistance from cooperating personnel all along the line. There are yet many short cuts we do not know about, which would add to efficient production and improved quality.

A modern newspaper produced by offset has something with shine to sell to advertisers and readers alike. Unlimited art, photo and gingerbread without rationing appeals to advertisers anywhere. No time required to hunt mats! We changed from 12 to 11 em columns recently. The cost: nothing! Just had the straight matter set 11 ems on the same old 12-em slugs.

I am no expert, but we have made the change in presswork from letterpress to offset, retaining hot type for straight matter, some heads and ads. Further changes are due in the future. We are not through learning vet.

Have you any questions?

#### Safety Article

Dear Sir:

National Safety News magazine, October, 1957, issue, made mention of an article by H. H. Slawson, entitled "Accidents Don't Happen, They Are Caused," which apparently appeared in the August, 1957 issue of Modern Lithography.

Will you please send one copy of this article to me?

> W. T. Walker American General Insurance Co.,

Houston, Tex. Copy has been sent-Editor.

#### List of Estimating Books

Dear Sir:

Would you please furnish us with a list of text books covering the subject of offset estimating, and addresses where these books may be obtained?

Ray H. Bass, Bass Lithograph Co., Knoxville, Tenn.

Best source is the Lithographic Technical Foundation, 131 East 39th St., New York, N. Y. They print two or three (Continued on Page 115)

#### **Trade Events**

Lithographers National Association, 53rd a

Linographers National Association, 33rd annual convention, Arizona Biltmore Hotel, Phoenix, Ariz., April 28-May 1, 1958.
National Association of Litho Clubs, annual convention, Shoreham Hotel, Washington, D. C., May 1-3, 1958.

International Fair for Print and Paper, DRUPA, Düsseldorf, Germany, May 3-16, 1958. Web Offset Section, Printing Industry of Amer

ica, Drake Hotel, Chicago, May 8, 9, 1958. Southern Graphic Arts Association, 37th annual convention and exhibit, Brown Hotel, Louisville, May 19-21.

Research and Engineering Council of the Graphic Arts, eighth annual meeting, Edgewater Beach Hotel, Chicago, May 21-23, 1958

Technical Association of the Graphic Arts, annual convention, June 22, 1958, Los Angeles. National Association of Photo-Lithographers, annual convention, Statler Hotel, Boston, Sept. 28-Oct. 3, 1958.

#### Litho Schools

Canada—Ryerson Institute of Technology. School of Graphic Arts, 50 Gould St., Toronto, Ont., Canada.

Chicago—Chicago Lithographic Institute, 1611
W. Adams St., Chicago 12, III.
Cincinnati—Ohio Mechanics Institute, Cincin-

nati, Ohio. Cleveland—Cleveland Lithographic Institute, Inc., 1120 Chester Ave., Cleveland 14, Ohio. Los Angeles—Los Angeles Trade Technical Junior College, 1646 S. Olive St., Los An-geles 15, Calif.

inneapolis—Dunwoody Industrial Institute, 818 Wayzata Blvd., Minneapolis 3, Minn. ashville—Southern School of Printing, 1514

South St., Nashville, Tenn.
New York—New York Trade School. Lithographic Department, 312 East 67 St., New

Manhattan School of Printing, 72 Warren St., New York, N. Y.

-Oklahoma A & M Technical School. Graphic Arts Dept., Okmulgee, Okla. ochester—Rochester Institute of Technology

Dept. of Publishing & Printing, 65 Plymouti Ave., South Rochester B, N. Y.

iladelphia — Murrell Dobbins Vocational

School. 22nd and Lehigh, Philadelphia, Pa. Pittsburgh—Carnegie Institute of Technology. School of Printing Management, Pittsburgh.
San Francisco—City College of San Francisco

Ocean and Phelan Aves., Graphic Arts Department. Louis-David Ranken, Jr., School of Mechanical Trades, 4431 Finney St., St. Louis 8,

Mo. Vancouver-Clark College. West Virginia—W. Va. Institute of Technology. Montgomery, W. Va.

#### Trade Directory

Lithographic Tech. Foundation Wade E. Griswold, Exec. Dir. 131 East 39th St., New York 16, N. Y. National Assn. of Photo-Lithographers Walter E. Soderstrom, Exec. V.P. 317 West 45th St., New York 36, N. Y. Lithographers National Associatio W. Floyd Maxwell Exec. Dir. 381 Fourth Ave., New York 16, N. Y. National Assn. of Litho Clubs Edward L. Bode, secretary 504 Mariorie Ave. Dayton 4, Ohio. Printing Industry of America Bernard J. Taymans, Mgr. 5728 Connecticut Ave., N.W., Washington, D.C. Internati. Assn. Ptg. House Craftsmen P. E. Oldt, Exec. Sec'y. 307 E. Fourth St., Cincinnati 2.



### guaranteed longer plate life . . . 5 minute image repair on the press

If you're plagued with short runs and image failure, or if you're getting good runs but want to do even better . . . here's what to do. 1, 2, 3—it's that simple. Gum plate after normal development. Remove old water emulsion lacquer with Little Benjy Correction Fluid. Apply Little Benjy Plastic Lacquer. You're in business for long runs. Longer than you've ever had before. It's tough and durable. High tensile strength—from a new kind of plastic. Added adhesives give it high bond strength. Longer runs or your money back.

There are too many variables in plate and press rooms. Temperature, humidity. Roller pressure, blanket pressure, packing. That's why some shops get longer runs than others. And why accidents can happen. Suppose you do get partial blinding. 1, 2, 3 again. Gum, correction fluid, more lacquer. Away you go . . . in five minutes. See your distributor . . . right now.

# PRE-SENSITIZED PLATES





SPECIALTY CHEMICALS FOR LITHOGRAPHERS

KNOX SOAP COMPANY . 3300-22 W. CERMAK RD. . CHICAGO 23

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#### TECHNICAL SECTION

### **Contact Screens**

#### The various types and how they are used

By Gyan P. Madan
Instructor of Photolithography,
Carnegie Institute of Technology, Pittsburgh

CONTACT screens are being used extensively in the United States and abroad, especially in the lithographic trade. The screens, several types of which are available, perform the function of a conventional glass crossline screen, but they do so in a very unique way. Let us examine the various types of contact screens, their development and use.

The first patents for a contact screen were taken out, surprisingly, in the 1850's, but the screens do not seem to have been used widely until the 1930's when the first one to be used on anything like a wide scale was the so called "Orange Screen." The reason for dveing the screen orange rather than black was to solve the problem of contrast control. With the cross line screen, contrast (i.e. dot shape and size) can be varied by altering the distance between screen and plate. But clearly this cannot be done when a screen is in perfect contact with the sensitive film. By coloring the screen and by varying the color of the light source, some control was introduced, for the color of the screen acted as a filter which would pass or reject light depending upon its color and so build up bigger or smaller dots.

At the present time in the graphic arts there are two types of contact screens available: the neutral gray screen and the magenta contact screen. These contact screens consist of a pattern of transparent neutral gray

or magenta elements graded in density or vignetted on a flexible film base. The gradient of each individual element or vignetted pattern is precisely controlled in manufacturing to provide the dot formation required in high quality reproductions. These screens are used in vacuum contact with "lith" emulsion type ortho film. Thus the screen pattern follows subject outlines and details, yielding a marked improvement in image sharpness.

#### **Neutral Gray Screen**

The neutral gray contact screens have been especially designed for the lithographer who wishes to make direct-screen separation negatives from color prints, color paintings, and, under certain conditions, color transparencies. Contrast control in the case of gray contact screens varies from make to make. For example, in the U.S. and in Britain, where the most commonly used neutral gray contact screen is that made by Eastman Kodak, the contrast is controlled by various operating techniques. However, in Europe several makes of gray screen are available which involve the use of sets to suit all contrast, one for bright copy, one for flat and one for normal.

#### Magenta Contact Screen

The screen most widely used in the U. S. is the *Magenta Contact Screen*, another Eastman Kodak product. This approaches the problem of contrast control in an original manner: all the dot elements of the screen are dyed magenta. Contrast of the result is controlled by using filters of different colors over the lens. Contrast of the screen image is reduced by exposing with yellow light; increased by exposing with the magenta light. Thus, accurate reproduction of all the tones in the subject is faithfully recorded irrespective of the contrast of the original.

Magenta Contact screens for photolithography are available in rulings of 60, 120, 133, 150 and 300 lines per inch.

These screens may be applied in three ways:

- On a camera equipped with a vacuum film holder.
- By contact from a continuoustone negative or positive in a vacuum printing frame.
- In an enlarger equipped with a vacuum printing frame in the image plane.

#### Method 1: In The Camera

The camera is scaled and focused and the base side of the "Lith" emulsion type ortho film is positioned on the vacuum back. The Magenta Contact screen is placed over the film with the matte side of the screen in contact with the sensitive emulsion. The sensitive film should always be at least two inches smaller in each

dimension than the screen to insure an efficient vacuum contact.

Dot structure and image contrast are independent of the size of the aperture used in the camera lens. The operator can select the optimum aperture of the lens from the limitations imposed by the relationship between screen distance and ruling, camera extension and lens aperture necessary with conventional engraved screens.

Exposure can be carried out as follows:

- (a) General exposure without a filter
- (b) Flash exposure using a 'Wratten' No. 5 Filter

However, in order to obtain the maximum value in quality and standardized technique, it is recommended that the Eastman Kodak Graphic Arts Exposure Computer be used.

In order to simplify the technique further, the following example will serve as a guide:

ORIGINAL COPY: Normal-contrast bromide print.

CAMERA ILLUMINATION: Two single 35 amp, open arc lamps, one on each side of the copy 40 inches from the center of the original at an angle of 45 degrees.

CAMERA SCALE: 100 percent.

LENS APERTURE: f/16

Successed Exposure: 40 seconds (no

FLASH EXPOSURE: 10 seconds (Wratten No. 5).

DEVELOPMENT: 2½ min. in 'Lith' type developer at 68 F. (20 C.) with continuous agitation.

#### Method 2: Vacuum Frame

The second method is by contact in a vacuum printing frame. For this method the Magenta Contact screen is used in conjunction with an original consisting of a continuoustone negative or positive produced to the required size on fine-grain film. It is recommended that operators should aim to produce continuoustone negatives of density range 1.30 (that is, 0.20 in the shadows and 1.50 in the highlights.)

The operator places the Magenta Contact screen between the continuous tone negatives and the "Lith" emulsion type Ortho film, making certain that the matte surface of the

(Continued on Page 121)

#### TECHNICAL BRIEFS

These abstracts of important current articles, patents, and books are compiled as a service of the Lithographic Technical Foundation, Inc. They represent statements made by the authors and do not express the opinions of the abstractors or of the LTF.

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#### Photography, Tone and Color Correction

\*Sharp Pictures from Unsharp Necatives. H. J. Fritzsch. Bild & Ton 9, 100 (April 1956); Ansco Abstracts, vol. 16, No. 5, May 1956, page 222. Professor S. C. Herz has constructed a tube for attachment to a projector or enlarger in which an unsharp image is scanned, the focal plane corrected, and the corrected image projected on the paper through a cathode ray tube. The apparatus still requires simplification for more general use. It is also expected to correct pictures which have been distorted by camera movement, not by movement of parts of the object.

\*Gray Masks by Scanning. German Appli. 1,007,622 57b 18/08 8/16/54-5/2/57. E. Gretener; Zurich (Switzerland). Ansco Abstracts, vol. 17, No. 6, June 1957, page 275. Customary gray masks improve color reproduction to some extent but cause color falsification. The described procedure involving four scannings by a flying spot scanner with three photocells and copying of a cathode ray screen leaves hue and saturation unscreen.

changed from the highlights to the deepest shadows. The internegative material used carries on one side of the film support a silver halide emulsion for the neutral gray mask and an antihalation layer so that exposure of this emulsion does not affect the color emulsions on the other side. Their place may be taken by an inbibition layer for dye transfer by the Technicolor process. The silver image determines the sharpness of the picture, the dyes impart the coloration; thereby the registration requirements are relaxed.

\*EMULSIONS SENSITIZED FOR HALFTONE PATTERNS. Patent 2,742,833 95/8 6/29/51-4/25/56. R. M. Evans, R. E. Stauffer & H. C. Yutzy to EK. Ansco Abstracts, vol. 16, No. 5, May 1956, page 239. A halftone pattern is printed on a blue-sensitive lithographic emulsion in the form of a green-sensitizer solution. The dye is applied near the center of the dots only, so that it diffuses somewhat and the induced sensitivity at the edges of the dots is lower. Exposure through a blue filter will produce a continuous tone image only, a green or yellow filter a halftone image.



### One key . . . the contrast and stability of Kodalith Ortho PB Film, Type 3

Like most of us, you probably want decisive contrast between clear and dark areas on your negatives. Dense, sure blacks—not just "tattletale grays."

And Contrast with a capital "C" is what you get with the fine new Type 3 emulsion of Kodalith Ortho PB. You can see it in your halftones just as well as in your line negatives.

Of course, you get maximum size-holding, too. The .010-inch polystyrene base of Ortho PB is stable—close register becomes routine.

The broad latitude to over- and under-exposure, over- and under-development of Type 3 will soon be a byword among camera operators. This is latitude that saves repeats.

Your dealer has Kodalith Ortho PB in the new Type 3 emulsion. It comes in the .010-inch thick base mentioned above and in a .005-inch thin base for combination printing and lateral reversals. Your Kodak technical representative will gladly demonstrate.

#### The other 4 keys in the PB family:

2 Kodak Separation Negative PB Film for color separations



Kodak Commercial PB Film for continuous-tone negatives and positives.



Text for this advertisement was set photographically.

3 Kodak Autopositive PB Film for lateral reversals, reflex printing, etc.



Kodalith Ortho PB Film, Type 3, .005-inch thin base for line and halftone work.



Kodak

Write for your FREE copy of "The Kodak PB Family," which gives full details.

Graphic Reproduction Sales Division

EASTMAN KODAK COMPANY Rochester 4, N. Y. The possibility of imprinting a green-sensitive 50-line screen (for newspapers) and a red-sensitive 120-line screen (for magazine copies) is considered. Eleven process and product claims.

\*ELECTRO-OPTICAL SYSTEM FOR PRO-DUCING OUTLINE PICTURES FROM CONTINUous Tone Originals. U. S. Patent 2,801,-279-Application October 27, 1950. John A. C. Yule-Assigned to Eastman Kodak Company, Inc. Official Gazette 720, No. 5, July 30, 1957, p. 1037. An electro-optical system for producing an outline picture from a single continuous tone record including means comprising a scanning beam for scanning the single continuous tone record, elemental area by elemental area, means responsive solely to differences in the intensity of the scanning beam as modified by adjacent areas of the record for establishing an electric signal when the density gradient between such areas in the single record exceeds a predetermined value, and means for exposing a photosensitive layer to a scanning beam whose intensity is controlled by said lastnamed means.

\*VARIABLE GRADATION HALF - TONE SCREENS. Netherland Patent No. 714,710. Stichting Instituut voor Grafische Technek van de Organisatie voor Toegepast-Natuurwetenschappeujj, Onderzoek, Ter Gouwstraat, 1, Amsterdam, The Netherlands. Application date (Netherlands); Nov. 15, 1950. Published: Sept. 1, 1954, The British Journal of Photography, August, 1956. According to this specification it is proposed that an aperture of, for example, triangular shape shall be illuminated by a condenser system and imaged by a lens at considerable reduction upon a photographic dry plate. The photographic material is traversed across beneath the optical system so that a latent image is formed of a line varying acress its width from very dense at one side to transparent at the other. The photographic material is then moved at right angles to the length of the latent image line by a distance equal to the width of the line and the traverse repeated, and so on until the whole area is ruled with latent image lines which may be developed to form either a silver grain image or a homogeneous dye image by colour former development. It is stated that two such plates may be made and sealed together with the lines crossing at right angles, much in the manner of conventional engraved half-tone screens, or the sheet of photo-sensitive material may be ruled with latent image first in one direction and then at right angles across the first set of lines, thus producing the crossline effect. The inventors point out that the shape of the aperture in the optical system can be of any form and so the variation in density across the latent image lines is infinitely controllable.

Planographic Printing Processes

\*PLANOGRAPHIC PRINTING OF MICRO-CARDS. Canadian Patent 523,510 5/15/51-4/3/56. A. Boni to Readex Microprint Corp. Ansco Abstracts, vol. 16, No. 4, April 1956, page 202. In the use of a rotary planographic printing plate and a resilient blanket, moistening and a light coating of ink are applied repeatedly to the plate before impressing it against the sheet under heavy pressure. Ten process and product claims.

\*MOLLETON ROLL FOR LITHOGRAPHIC PRESSES. U. S. Patent 2,800.855-Application July 3, 1953. Clarence Lloyd Claff and Carl A. Moeller-Assigned to M. B. Claff & Sons, Inc. Official Gazette 720, No. 5, July 30, 1957, p. 936. A moistening roll for a lithographic press, comprising a rigid imperforate cylindrical tube, a porous fabric cover surrounding the tube, said cover being adapted to permit capillary flow of liquid therethrough and being substantially longer than the tube and having its ends turned inwardly of the ends of the tube and extending into the interior theerof, and sleeves within the inturned cover portions adjacent the outer ends of the interior of the tube, the cover intermediate the sleeves and the tube being free to transfer moisture between the cover outwardly of the roll and the inturned ends inwardly of the tube.

\*PLANOGRAPHIC PRINTING PLATES AND METHODS FOR MANUFACTURING SAME. U. S. Patent 2.800,077. Thomas U. Marron-Assigned to A. B. Dick Co., Inc.-Application March 27, 1952. Official Gazette 720, No. 4, July 23, 1957, p. 726. A lithographic printing plate comprising a base sheet and a continuous layer on the surface of the base sheet which layer forms the hydrophilic lithographic surface of the plate and consists of a polyphase system having a hydrophilic, water insoluble, film forming colloid as the continuous phase and a dispersed phase of an ink receptive water repellent imaging material which forms an ink receptive image on the lithographic surface when released to the surface of the coating from the polyphase system in the imaged areas.

PROPERTIES AND PROCESSING OF PRE-SENSITIZED OFFSET PRINTING PLATES. Axel Lundbye. Printing Equipment Engineer 87, No. 12, September 1957, pp. 50, 51, 78 (3 pages). This is a discussion of the properties and processing of presensitized plates considering: mounting, form roller adjustments, running adjustments, negatives and plate connection.

\*Developer for Presensitized Plano-GRAPHIC PRINTING PLATES. U. S. Patent 2,754,279. Minnesota Mining and Manufacturing Co. and M. W. Hall. Chem. Abstr., vol. 50, No. 18, 25 Sept. 1956, col. 12713, Printing Abstracts, vol. 11, No. 12, December 1956, page 777. The developer described is capable of producing an image of increased thickness, improved wear resistance, and improved inking and printing qualities as compared with former developers. The aqueous phase consists of water 90, a 25 per cent solution of gum arabic in water 18, and wetting agent 1.8 parts by weight. The non-aqueous phase consists of ethylene dichloride 50-60, cyclohexanone 40-50, epoxy resin 30, and toluidine toner 9 parts by weight. The epoxy resin may vary from viscous but fluid to hard and brittle.

\*LIGHT SENSITIVE MATERIAL FOR PHOTO-MECHANICAL PRINTING. U. S. Patent 2,-759,820. Azoplate Corp., W. Neugebauer and M. Tomanek. Issued 21 Aug. 1956; Marathon Graph. Arts Abstr., vol. 3, No. 9, Sept. 1956, page 118, Printing Abstracts, vol. 11, No. 12, December 1956, page 776. Thin sheets of grained aluminum bearing a layer of cinnamal malonic acid in which azido groups are substituted are used as photolitho plates.

\*LITHOGRAPHIC PRINTING. British Patent 755,147. Appl. 22 Dec. 1954, U. S. 5 Jan. and 29 Sept. 1954, publ. 22 Aug. 1956; Pat. Abstr. J1, No. 3515, 22 Aug. 1956, p. A-897, Printing Abstracts, vol. 11, No. 12, December 1956, page 753. The ink-receiving surface of a printing plate, etc., is wetted before contacting the inking mechanism, and a portion of the moisture on the plate is transferred to the mechanism. The ink retained on the mechanism is subjected to an air current to increase the evaporation of water therefrom.

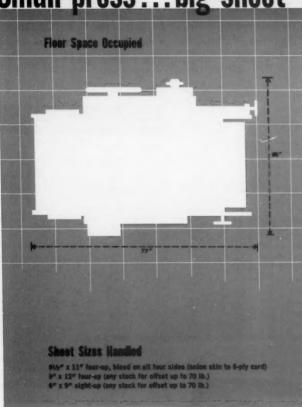
#### Paper and Ink

\*INKS FOR PLASTICS. Rabaté. Peintures Pigments - Vernis, Feb. 1956, pp. 122-3 (Les presses documentaires, 28 rue St. Dominique, Paris 7e) (D187.83/14, 973:) Printing Abstracts, vol. 11, No. 9, September 1956, page 528. The principles of the formulation of inks for plastics are discussed, the necessity of approximating the chemical and physical properties of the inks as closely as possible to those of the plastics being stressed. Part of the difficulty in effecting permanent adhesion is due to the migration of the plasticiser. The addition of a swelling agent, e.g., dibutyl phthalate, with or without methyl methacrylate, to an ink to increase its adhesion to a vinyl plastic has been suggested. Hints are given on the preparation and printing of inks for polyvinyl plastics.

\*Transfer Method of Printing on Plastic Films. Australian Patent, 163,012. Brock, H. W. Metal Box Co. Ltd. Res. Diesn. Survey Lit., Dec. 1955, p. 16; Printing Abstracts, vol. 11, No. 9, September 1956, page 581. The pattern is printed in any desired number of colours, with inks (Continued on Page 117) Fast Set Up
Easy Change Over
Stream Feeder
Maximum Speed of 6000 IPH (stepless)
Superior Inking System
Hairline Register



Small press...big sheet



## ATF Chief 24

You get a lot of production with the compact Chief 24 offset press. When you think of the sheet sizes the press handles in proportion to the space it takes up on your shop floor, you can see why the Chief 24 is such a high producer per square foot of press.

And when you consider the fast set up and easy change over features, you can understand why it's a favorite with pressmen. If you figure production in terms of a day's output, imagine what you can get with the Chief 24's stream feeder and maximum speed of 6000 IPH (stepless).

Don't overlook the quality story, either. There's no finer inking system on any offset press. 19 rollers (plus the fountain roller) give you superior ink coverage on the most critical jobs, including those with large solid areas. And the three point register system, with a pull side guide, insures hairline control.

Want to know more about the Chief 24? A new booklet gives complete information about operating features and full specifications. To get your copy, just mail this coupon.



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#### LITHO CLUB NEWS

#### Tulsa

#### Has Booth At State Fair

Under the chairmanship of Dugal McIntyre, the Litho Club of Tulsa set up a booth at the Tulsa State Fair in October at which four-color process printing was demonstrated. The project acquainted the public with four-color work and gave the club an opportunity to show the people of Tulsa, and the surrounding areas, the operation of a trade organization.

Two small offset presses were placed side-by-side in the booth and club members ran off a four-color bulletin, designed by Mr. McIntyre, as the public watched. One side of the sheet was a couple of four-color photographs, and the reverse side was a two-color piece telling about the Litho club.

There was always a crowd around the booth, the club reports, watching the presses in operation. Two members stayed in the booth to talk to the public, and two kept the presses running. During the day when the crowds were small, the wives of the club members stayed in the booth to answer questions and distribute the literature.

The club also reports several side benefits from the project. One was that the club gained several new members.

Four-color bulletin (left) produced by the Tulsa Litho Club at the Tulsa State Fair. Dugal McIntyre, (lower), chairman of the committee which set up the booth at the State Fair, checks the presses and booklets on display for the public.





#### Detroit

#### **Board of Governors Meets**

The Board of Governors of the Detroit Litho Club met at the St. Clair Yacht Club Oct. 23 to plan future programs and to discuss preparations for the NAPL convention next year.

Members present were Joseph Fortin, Manuel Claramunt, Frank Ohnesorg, Louis Lafrate, John Murphy, Wallace Christensen, James Glenn, Eugene Croteau, John Shutran and Leo Croteau.

The election of officers took place at the November meeting, and they will be installed this month.

The Christmas party will take place Dec. 21, at the Yacht Club. Mr. Croteau will be in charge of the arrangements, assisted by Messrs. Lafrate, Murphy, Christensen and E. Toensfeldt, assistant secretary of the club.

#### **Twin City**

#### 'Bosses Night' Held

The Twin City Litho Club held a "Bosses Night" Nov. 7, with members bringing their bosses as guests of the club.

Speaker for the evening was Toby Morgan, a past president of the National Association of Litho Clubs who spoke on "What the Future Holds for Offset Lithography."

Booths and displays containing materials and presses were set up for the meeting by various suppliers. Among them were Automatic Litho Supply, T. K. Gray Co., Davidson Sales & Service Co., Eastman Kodak Stores, Litho Supply Depot, Olsen Photo Co., Perfection Litho Co., Rutherford Machinery Co., and several others.

The meeting was held in the Sky Line Room of the Calhoun Beach Hotel.

#### Buffalo

#### Holds Dance

The Buffalo Litho Club cancelled its regular meeting this month in order to hold a dance at the Continental Inn on Dec. 7.

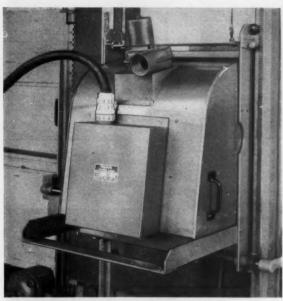
# "It's like having an extra photo-composer!"



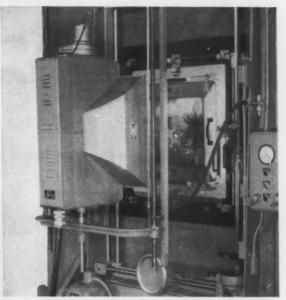
That's a lithographer's reaction to the reduction in exposure time he got when he equipped his photo-composing machine with a Macbeth

Constantarc lamp. You see, he almost doubled his output, got work of consistent high quality, and practically eliminated remakes!

Macbeth Constantarc lamps permit the operator to devote all his time and attention to his work. There are no meters to watch or tap switches to fiddle with in order to compensate for line voltage fluctuations-this lamp actually is completely and constantly automatic-regulating.



This Lanston M-H Vertical Photo-Composing Machine is equipped with a Macbeth Constantarc B-1C-L printing lamp. The specially designed housing permits the lamp to be mounted directly on the



Here's a Macbeth Constantarc B-1C printing lamp on a Rutherford RM Photo-Composing Machine. A Constantarc is available for the Rutherford type PL photo-composer, also. Lamp shown has optional

There's a Macbeth Constantarc designed specifically for your photo-composing machine . . . designed to give you consistently uniform exposures from the first to the last with reductions in exposure time of 50% or more from exposures required with old-style lamps. What's more, there's a reflector designed for every chase size right on up to the largest to assure the maximum degree of evenness with the light confined to the desired area. This means light-loss is eliminated and maximum illumination assured. An exhaust system is available for cooling and to help eliminate dust problems.

Macbeth Constantarc printing lamps are available on 30 days free trial so you can prove for yourself how they can increase production and reduce costs. Integrated design and construction mean the Constantarc is easy to install on any type or size of photo-composer.

#### INSIST THAT YOUR NEW PHOTO-COMPOSER BE CONSTANTARC EQUIPPED! USE THE COUPON TO GET THE FULL STORY.

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MACDEMII	141 Be
MACBETH	printing
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ARC LAMP COMPANY	Name_
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	Compar
141 Berkley Street, Philadelphia 44, Pa.	Address
	City an

TH ARC LAMP COMPANY rkley St., Phila. 44, Pa.

Tell me all the advantages of using a Macbeth Constantarc lamp on my photo-composer.

the make, model, and size:













# We've been telling your story over and over

During the past year, all these four-color advertisements have been telling your story in national magazines. Along with the advice to readers to "Know Your Printer Better", these advertisements remind them of your skill and experience. And they strongly urge your customers to make the most of the power of print by calling you in before they start any print job. For many years, it has been the policy of The Mead Corporation to help the people who do business with us. The advertising shown above is just part of a complete Mead program to bring you and your customers closer together. See the Mead paper merchant nearest you soon. The Mead Corporation, Dayton 2, Ohio, producers of the world's most complete line of quality printing papers.





Sales Offices. Mead Papers Inc., 118 West First Street, Dayton 2, Ohio • New York Chicago • Roston • Philadelphia • Atlanta

#### Chicago

#### See Champion Film

Feature attraction at the Chicago Litho Club's November meeting was Champion Paper & Fiber Co's noted film, "Production 5118," which deals with promotion of desirable relations between a company and its employes and with the community in which the industry is located. On hand to answer questions and elaborate on the theme of the motion picture was R. C. Skillman, director of public relations for Champion at their Hamilton. O., plant. The art of living, whether it involves getting on with vour wife, or promotion of international peace, he pointed out, is, as portrayed in the film, dependent on right communications. Suggested in the story was the thought that ideas can be transmitted to others better than is at present being done.

Because Thanksgiving Day fell on the Chicago Club's regular meeting date, the meeting at Toffenetti's Monroe Street restaurant was held one week earlier, on Nov. 21.

Members were reminded that the Christmas party for members only would also be held Dec. 19, a week earlier, to avoid conflict with Christmas. Al Reitz, of IPI, and chairman of the entertainment committee, announced that the party will include the traditional "Grab Bag" exchange of gifts (worth not over \$2 each). A musical program with "laugh producing" interludes was being prepared and after the dinner there will be ensemble carol singing, he said.

#### Philadelphia

#### New Officers Elected

Stephen Rubenstein, Colorcraft Lithoplate Co., was reelected president of the Philadelphia Litho Club at the Nov. 25 meeting.

Russell Johnson, du Pont printing division, was elected vice president; Andrew Given, National Decolcomania, treasurer; and Joseph H. Winterburg, Phillips & Jacobs, Inc., secretary.

Nominated for the three vacancies

on the board of governors were Charles Honald, Revere Press; George Ruegg, Price Bros.; Martin Cassulli, Majestic Press; Milton Kochersperger, Allen, Lane & Scott; Dominic Barossa, du Pont, printing division; Edward Capkovic, W. T. Peck Co.; and Robert Fournier, Edward Stern & Co.

Winners in a close election were Honald, Kochersperger and Fournier.

Three men were nominated for the one vacancy on the board for associate members: William Taylor, Ansco; Harvey Shalette, Seaboard Printing Ink; and Howard Diehl, S & V.

In another close race, Mr. Taylor was top man.

The featured speaker at the meeting, which was held at the Poor Richard Club, was a former president of the club, William J. Stevens. He is presently manager of the Philadelphia office of the Miehle Co. He is also a past president of the National Association of Litho Clubs.

In 1948 Mr. Stevens co-authored a book entitled *How To Prepare Art and Copy for Offset Lithography*. Due to the time lapse since the original publication, he devoted his discussion to new methods and advances covering the same subject.

"Primary in copy preparation is educating advertising agencies and other printing buyers to the most advantageous methods of arranging material for the camera," Mr. Stevens emphasized.

He said that the litho process is unique and more flexible than letterpress in the preparatory stages, but that certain fundamentals must be observed if the job is to be produced efficiently and economically for both the buyer and the lithographer.

Such simple rules as protecting photos and art work with tissues (but not an oily tissue that will mar the surface) are often ignored in the rush to prepare copy, he commented.

He went on to describe the preparation of color jobs by tissue overlay, acetate overlay and keyline drawing, giving tips for better reproduction in each case.

In handling repro proofs, he said, a heat lamp can be used to dry them, but tale should be avoided because of the troublesome residue. In a spirited discussion which followed, several club members urged a formal program to educate printing buyers.

The Litho Club Printing Week committee, headed by Harvey Webb, is actively engaged with the steering committee to present this year, "a Printing Week that will top them all." Entrants for the annual Delaware Valley Graphic Arts Exhibit to be held during Printing Week have been closed and the screening of this material took place Nov. 25. William Weiss, also serving on the Printing Week committee, was a member of the screening committee who went through hundreds of very fine printed specimens to select those suitable for hanging. The exhibit will be presented during Printing Week in January at the Benjamin Franklin Hotel.

Plans are under way for the annual Ladies Night, which will be held at the Benjamin Franklin Hotel in February. Howard Harcke is again chairman of the committee.

There will be no regular meeting in December, and the January meeting will be held in conjunction with the Printing Week festivities.

#### St. Louis

#### Installs Officers

The St. Louis Litho Club elected the following officers at its Nov. 7 dinner meeting: Gene Hanson, Ross-Gould Printing Co., president; Dan Newman, Western Printing Co., vice president; Raymond Eckles, Ross-Gould Printing Co., secretary. Carl Gerak continues as treasurer. The new officers were installed at the club's Christmas party held at the Coronado Hotel, Dec. 4 and will take office in January.

#### McGowan To Mendle Co.

Neil McGowan, who edits the St. Louis Litho Club's monthly publication, *Hi-Light's*, is now the foreman of the plate department of Mendle Printing Co. Mr. McGowan was formerly with Ritterskamp Press.

#### **Boston**

Hears Talk, Panel On Color



Boston Litho Club panel at the Nov. 4 meeting. (L.r.) John White, Litco Offset Corp.; William Mason, Forbes Lithograph Mfg. Co.; William Betterly, Eastman Kodak, Rochester, N. Y., guest speaker; John E. Spencer, The Spencer Press; and Merrill N. Friend, Spaulding-Moss Co.

William Betterly, Eastman Kodak technical representative was the speaker at the dinner meeting of the Boston Litho Club Nov. 4 at the Hotel Bradford. He chose as his topic, "Color Printing Profitably." A panel of four well-known Boston lithographers answered specific questions on the subject.

James Fraggos, president, Halliday Lithograph Corp., and president of the club presided at the meeting, attended by 125 members and guests.

Special guest was Frederick A. Fowler, 2nd vice president of the National Association of Litho Clubs. He is the first officer of NALC to attend a meeting of the Boston Club.

Mr. Fowler commented on the workings of NALC and complimented the Boston group for their cooperation with the national office.

Mr. Betterly discussed difficulties experienced in both three and four-color reproduction. He commented on the purpose of color printing and explained plate-making control for color and press handling of three and four-color facsimile. He accompanied his talk with a display of proofs of three and four-color printing.

The panel was composed of Merrill N. Friend, plant research engineer, Spaulding-Moss Co.; John E. Spencer, president, Spencer Press, Inc.; John White, vice president, Litco Offset Corp.; and William F. Mason,

chief, photographic department, Forbes Lithograph Mfg. Co.

One of the questions answered by Mr. Mason was, "Whats the sense of talking about 'three-color' when we have a 'four-color' process? Aren't we going backwards?"

Mr. Mason answered, "let's not think 'three-color' versus 'four-color'. Think of selling three-color work to persons that are now using single color or duotone treatment. As these persons graduate to three-color process work they become potential future customers for top quality four-color work. The three-color process was originally aimed at short run, small press size editions and can serve admirably in that capacity."

He also answered a question on the most important factor in the threecolor process. He replied that, "success with the three-color process demands close control all the way from receipt of art to completion of the press run. The cameraman must accurately control his exposures, processing solutions and techniques. The platemaker certainly should be using a sensitivity guide and all press sheets should contain tint bars of each color to insure proper control at press. Good balance of the threecolor ink images is absolutely necessary to produce neutral grays. This fact can be used as a guide for con-



NALC 2nd vice president Frederick Fowler and his wife Irene at the Nov. 4 meeting of the Boston Litho Club. (L-r.) Malcolm Delano, 1st vice president of the club; Mr. and Mrs. Fowler; and James Fraggos, president of the club.

trol of press run since any unbalance shows up as a colored bar instead of a neutral gray bar."

Herbert L. Borden, Hub Offset Co., and former president of the club announced that the Lithographic Workshop Forum would be a two-day highlight of Printing and Publishing Week of New England. The forum, scheduled for Jan. 17 and 18, is digested from a series of closed circuit television sessions shown in 25 cities throughout the United States. Cost is \$9 per person.

#### Washington

'Fowlers Folly'

Gerald Stovall, of the Colorcraft company has published a humorous folder on the Washington Litho Club's recent visit to the Glatfelter Paper Mill in Spring Grove, Pa.

Poking gentle fun at Frederick Fowler, newly elected club president, and 2nd vice president of the National Association of Litho Clubs, the folder contains several pictures of what it calls, "Fowler's Folly."

The booklet was prompted by several unavoidable incidents during the trip, including a wrong turn which led to some rough roads, and a mechanical breakdown of the bus which made it necessary to call for another one. The booklet cites the club members for their hour wait and says that members "withstood the ordeal admirably."

On Nov. 26 the club visited the Capital Printing Ink Co. in Washington for an inspection of its newly enlarged quarters, an ink mixing contest and a buffet supper.

Officers elected at the Nov. 26 meeting in addition to Mr. Fowler are Albert Tucker, Sauls Lithograph Co., vice president; Raymond Geegh, Government Printing Office, secretary; and Arthur Nugent, U. S. Coast & Geodetic Survey, treasurer.

The club's annual Christmas party will take place on Dec. 21 in the large ballroom of the Sheraton Park Hotel. There will be a dinner, entertainment and prizes. Charles McFadden, chairman of the entertainment committee is in charge of the arrangements.

New members of the club are Theodore P. Belt, Hennage Litho Co.; Rex Walter Crook, U. S. Marine Corps; Renaldo De Santo, Darby Printing; Lawrence E. Hale, Government Printing Office; Robert Ostrosky, Batt, Bates & Co., Inc.; Harry E. Selby, Geological Survey; Elmer C. Smith, Geological Survey; John W. Spates, Government Printing Office; Melville L. Thompson, U. S. Air Force; Ralph H. Vetter, Sr., McArdle Printing Co.; Charles P. Vierbuchen, Government Printing Office; and Lee Warwick, Universal Printers.

New Associate members are Walter E. Shea, Eastman Kodak Co.; John J. Browne, Philip A. Hunt Co.; and Edgar G. Stiles, Lanston Monotype Co.

#### Cincinnati

#### To Elect Officers

New officers of the Cincinnati Litho Club will be elected at a closed dinner meeting on Dec. 10. Candidates have been named on "White" and "Blue" tickets. About 90 members and guests at an open dinner meeting on Nov. 12 enjoyed a program by Nicholas Seta, who discussed and demonstrated numerous methods used by crooked gamblers. During a business session, June 28 was set as the date for the club's annual moonlight boat ride on the Ohio River.

#### Canton

#### Discuss Ink Problems

Ink problems was the subject of the October meeting of the Canton Litho Club held at the Linway Restaurant. Principal speaker was Hugh Clark, general sales manager, Kohl & Madden Ink Co., who showed a film clip concerning ink formulation and manufacture.

Edward Stanchi, the company's New York sales manager, explained some of the problems of manufacturers in formulating ink because of the differences of procedure in different shops. He advocated a standardization of both shop practices and terminology of troubles.

Mr. Clark and Mr. Stanchi, aided by Richard Jones and Thomas Troy of the ink company's Cleveland office, also conducted a question and answer period.

#### Cleveland

#### **Holds Unusual Program**

Herbert Leedy of Aids Development Co. acted as moderator of a program which simulated the starting of a new lithographic business, at the October meeting of the Cleveland Litho Club in the Cleveland Engineering Society auditorium.

Mr. Leedy took the part of the chairman of the "new" litho company, and hired Andrew Balika, plant superintendent of Copifyer Litho Corp., as "his plant superintendent."

Mr. Balika proceeded to interrogate the club members as though he were hiring them as heads of the various departments in the mythical company. The men "hired" became the evening's panel members.

Those selected for the panel, which discussed the problems facing a new company, were Henry Gleen, Copifyer Litho Co., "pressroom superintendent"; Frank Shied, Copifyer Litho Co., and Robert Kresge, "camera"; William Sweigard, Colorcraft Corp., "layout & stripping"; and Russell Waddell, Harris-Seybold Co., "plate making."

It is reported that this proved to be the most interesting meeting of the year, with the seating of the panel creating as much interest as the many questions asked the panel.

On Nov. 21, the Litho Club and the Cleveland Club of Printing House Craftsmen held a joint meeting at the Hotel Manger to hear Raymond Blattenberger, U. S. Public Printer, speak on "People Working Together."

The annual dinner dance and Christmas party was also a joint affair of the two clubs. It was held Dec. 7 in the "Mid-Day Club," located in the Union Commerce Building.

#### Young Lithographers

#### See Movie on Paper

Last minute substitution of a film on paper making was made at the Nov. 13 meeting of the New York Young Lithographers, after Frank Sportelli, who was to speak on gravure, was taken sick.

Gerald Urban, vice president of the

club, secured the new sound and color film "The Great White Trackway," from Hammermill Paper Co. The film told the whole story of paper making in some detail, starting with forests water power and going through various methods of calendaring.

Eugene Lederer, sales manager of Royal Paper Co., answered half a dozen questions on paper after the film, most of them dealing with variables in moisture content of paper.

In the absence of Mr. Sportelli, who is president of National Gravure Cylinder Co., Robert P. Long, editor of Gravure and former editor of Modern Lithography, answered a few questions on the subject. President Robert Lewin said an effort would be made to have Mr. Sportelli address a future meeting, after his recovery from the flu.

Another feature of the impromptu program was the showing of color slides of the Southwest by William Falconer, Eastman Kodak Stores. Mr. Falconer took the shots on an extended trip in the West following the NAPL convention in St. Louis in September.

New members of the YLA are Charles F. Klein, Royal Mounters, Inc.; Anthony W. Padula, Kindred, MacLean & Co.; and Thomas E. Meehan, the Meehan-Tooker Co.

There is no meeting scheduled for this month. The next meeting will be held Jan. 8.

#### **Holds Christmas Party**

The New York Club of Printing House Craftsmen held its annual combined graphic arts Christmas party Dec. 6, at the Hotel Commodore.

For men only, the party consisted of dinner, distribution of prizes and a show by television and vaudeville personalities.

#### Dallas

#### To Install Officers

The annual Christmas dance and installation of officers of the Dallas Litho Club will be held Dec. 14 at the St. Cecelia school gymnasium.

#### Litho Club Guide

ATLANTA Robert H. Scheuer, Secy. 2118 Brannen Rd., S.E., Atlanta

BALTIMORE Harold E. Hackman, Secy. 2950 Loch Haven Rd., Baltimore 18

BOSTON
Vincent J. Aliberte, Secy.
2010 Revere Beach Pkway, Everett
49, Mass.

BUFFALO Edmond S. Sendker, Secy. 978 Ellicott St., Buffalo 9

CANTON
Robert G. Scheppan, Secy.
1510 Meadow Lane, N.W., Canton 9

CHICAGO Emil Winter, Secy. 1301 Blackhawk St., Chicago

CINCINNATI
Buford Payne, Secy.
9 Burnham St., Cincinnati

CLEVELAND
Kenneth Aldridge, Secy.
1988 Caroline Dr., Mentor, O.

COLUMBUS John Morgan, Secy. 905 W. Town St., Columbus, O.

CONNECTICUT VALLEY Edward J. Yuskevich, Secy. 1847 Poquonock Ave., Poquonock, Conn.

DALLAS
Donald A. Cauley, Secy.
1807 Mentor St., Dallas

DAYTON Robert J. Mackin, Secy. 333 Salem Ave., Dayton 2

DETROIT

John Murphy, Secy.

13110 Santa Rosa St., Detroit 38

FORT WORTH Vernon Kageler, Secy. 4933 Dunlap Dr., Fort Worth

HOUSTON Frances Porter, Secy. 2301 Huldy St., Houston 19

LOS ANGELES Curtis Bourland, Secy. 7101 W. 93rd Pl., Los Angeles 45 MILWAUKEE

Jack W. Miller, Secy. 2572 N. 21st St., Milwaukee NEW YORK

Louis Happ, Secy.
11 Darby Court, Malverne, N. Y.
PHILADELPHIA

Joseph H. Winterburg, Secy. 618 Race St., Philadelphia 6 IEDMONT

Bernard A. Wilmering, Secy. 1503 Madison Ave., Greensboro, N.C. ROCHESTER

Edward C. Potter, Secy. 198 Weston Rd., Rochester 12 ST. LOUIS

ST. LOUIS Eugene Hanson, Secy. 4440 Bessie Ave., St. Louis 15

TULSA
Fridolph A. Holmberg, Secy.
1712 S. Owasso St., Tulsa
TWIN CITY

TWIN CITY Leonard J. Holzinger, Secy. 1405 Chicago Ave., Minneapolis 4 WASHINGTON

Raymond Geegh, Secy.
P.O. Box 952, Ben Franklin Station,
Washington A

Washington 4 CENTRAL WISCONSIN Richard Kiser, Secy. Route No. 2, Box 597, Menasha, Wis.

#### Houston

#### Nominates Officers

The nominations committee of the Houston Litho Club nominated Jake Ward for president of the club at the November meeting. Robert Chester was nominated for vice president; Frances Porter for secretary; and Henry Marchwinski for treasurer.

Selected by the committee for the active board of governors were Grady Caldwell, Otis Muckeniuss, Leslie Kesparick, and Frederick Gorzell. Harry Folk and Robert Chalander were nominated for the associate board of governors. Nominations will be accepted from the floor at the December meeting along with balloting for the election of officers.

Members of the club also approved a revision of the constitution and by-laws of the club.

Frederick Gorzell and Ernest Volke were initiated into the club as members. Visitors at the meeting included Norman R. Smith and Homer Benson.

At the November board meeting of the club a discussion of plans for the Southwest Litho Clinic scheduled for next June in Houston was held. The board voted to invite the new officers and board members to be elected at the December meeting to attend the December 10 board meeting. This is a policy of the board to acquaint the incoming officers and board members with the purpose and operation of the board of directors.

#### Milwaukee

#### **Speaks On Automation**

Automation and specialization were the subject of a talk by Frank Oehme on Nov. 26 at the Milwaukee Litho Club's monthly meeting.

He stated that the "weaknesses of these systems is the stifling of the development of an individual's thinking, initiative and pride of craftsmanship."

Using the medical profession and sports as a parallel he lamented the disappearance of the general practitioner and said that specialization is ever-spreading among the specialists.

In the lithographic industry, he said, "the general lithographer is also

becoming extinct. Not many lithographers today have the skill, experience and knowledge to produce a completed lithographed job from start to finish." He illustrated his theme by pointing out that there are over one-half dozen litho-artist job classifications and a similar number in the camera department. He added that there are over a dozen different plate and stripping job classifications and another dozen in the press department.

F

In speaking about automation, he said, "I am not sure whether it means that machines are doing the work of men or whether men are doing the work of machines." As an example he described a plate department where each step of the platemaking process was accomplished by a separate individual, and another where a machine is reported to carry out the process. He concluded by asking, "Who is to say which plant is the most 'automated?' "

The nomination of officers took place during the business portion of the November meeting, and elections will be held in the near future.

#### **New York**

#### Discuss Watercote, Ozachrome

The Watercote and Ozachrome processes were discussed at the Nov. 20 meeting of the New York Litho Club held at the Shelbourne Hotel. Seymour A. Rottenberg, Direct Reproduction Corp., and Garson Wolitzky of the Ozalid division of General Aniline & Film Corp. were the speakers.

Mr. Rottenberg spoke on the Watercote process, of making color proofs describing it as a "fast and inexpensive process which assures dimensional stability, reproduces perfectly, and gives the appearance of printed matter on uncoated stock."

He said that all the equipment needed normally is found in any platemaking department — a whirler, vacuum frame, arc lamp and sink.

A Watercote proof is made by coating a sheet of vinyl plastic with a sensitizing agent while it is in the

(Continued on Page 129)

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COLOR PHOTOGRAPH BY ANTON BRUEHL



#### PHOTOGRAPHIC CLINIC

By Herbert P. Paschel
Graphic Arts Consultant



## What About Daylight Fluorescents?

#### **Daylight Fluorescents**

Q: I am planning to use 40 watt daylight fluorescent lamps (four on each side) to illuminate a 36"x48" copyboard for line and halftone work (Autoscreen). Have these lights proved successful? What about exposure times compared to carbon arcs? At what distance and angle are they used?

J.A.W., DENVER

A: Despite the fact that fluorescent lamps are an extremely economical and efficient source of light, they have not been able to compete with, or replace, carbon arcs as an illuminant in graphic arts photography. This is mainly due to the high illumination levels required by the graphic arts for which, until the present, the arc lamp has remained the only practical source. The diffuse nature of the light produced by fluorescent lamps, plus the length and area of the source, makes it difficult to concentrate the available light and direct it to a given area. Although in the minority, however, fluorescent lamps are being used successfully in the graphic arts, and quite extensively for photostat cameras.

Several years ago fluorescent lamp fixtures designed specifically for use with process cameras were introduced by the Microtronics Corp. Line exposures with an eight-tube unit, (4-48" slim-line daylight tubes on each side of the copyboard), generally were longer than with arc lamps. The actual exposure differences were

It is impossible for Mr. Paschel to give personal replies by mail, but all questions will be answered in this column as soon after receipt as possible. The columnist also is available to the trade as a consultant for more complex litho problems.

2x or more, depending upon the amperage and efficiency of the arc lamps used for comparison. For halftone work with glass screens the difference was even slightly greater. But if the work entails only black and white copy, green fluorescent tubes may be used. In this case exposures will be considerably shorter and may be equal to, or less than, exposures with an average pair of arc lamps. Lamp distance and angle are very much the same as with arcs.

The commercial camera lamps previously mentioned, (Microtronics and others), used the slim-line tubes and differed from conventional fluorescent fixtures in two respects. An overloaded circuit was used to provide greater light output and special reflectors were placed behind each tube. If you intend to build your own lighting unit I would suggest that you contact the lamp division of General Electric for a reprint of an article on fluorescent lamps in process photography, and advice on the special circuits.

Whether or not fluorescent lamps

will work for you hinges on the volume of light you need for your particular application. Do not overlook the lens as a means for controlling the exposure factor. By using a larger lens opening than you would normally employ you gain a reduction in exposure time. This may prove enough compensation for the lower light level of fluorescent tubes to make their use entirely satisfactory.

#### Transparencies vs Prints

Q: We are fairly new in color and have worked with both color prints and with color transparencies. We have found that the former sometimes lack the sharpness of transparencies, and are not as vivid. Do you recommend working exclusively with transparencies (if they are available) or shouldn't it matter?

J. S., DAYTON, O.

A: It is not necessarily true that color transparencies are inherently sharper than color prints. You may be comparing top quality transparencies with low grade prints. It certainly is true that transparencies are more vivid than prints, but this could prove to be a decided disadvantage. The maximum brightness range of a color transparency is far greater than the brightness range that can be achieved with ink and paper.

In other words, a full scale color transparency cannot be duplicated

(Continued on Page 119)



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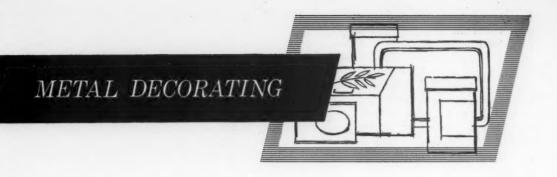
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## **New Applications of Synthetics**

By Bruce W. Hubbard

Vice President and Director of Research Ideal Roller & Manufacturing Co., Inc.

THE term "synthetic", as applied to rubber today, is somewhat of a misnomer. The term is broadly used for almost all compositions which display any degree of elasticity. It has become increasingly popular since crude or plantation rubber was in such short supply just prior to and during the last war.

Actually, plantation or Hevea rubber has been synthesized. It is however, not of commercial importance. As early as 1826 the chemical structure of the rubber molecule had been determined. Chemically it is isoprene. It was first synthesized from turpentine about 1882. Since that time, the rubber chemists have continued their search for a raw material and an economical method of commercially producing isoprene. Someday this may be possible, but it is still very much of a laboratory curiosity. If and when polymerized isoprene could become commercially available, we will probably have many other elastomers with properties superior to that of plantation or true synthetic rubber.

#### 'Synthetic' Rubber

So, while we do not have a true synthesized hevea rubber, we never-

theless call all of the available elastomers synthetics.

I believe however, we are justified in accepting and applying the term "synthetic" to many of the elastic polymers which have been developed, some of which already have specific properties that are far superior to plantation rubber. This is particularly true for those elastomers which have become so important for rollers and blankets used by the metal decorators.

#### First Synthetic Elastomer

For example, Thiokol, a polysulphide polymer, which was the first synthetic elastomer developed in this country during the early '30s, has extremely good oil and solvent resistance. The discovery of these polysulphide polymers was more or less accidental.

A dentist, Dr. Patrick, was trying to develop a cheap permanent antifreeze for automobile radiators. His experiments resulted in a rubber-like material which, while not as elastic as natural rubber, did have excellent resistance to the swelling action of most solvents. His discovery turned out to be truly a lifesaver, as Thiokol was and still is, the fuel-resistant lining for gas tanks on our military planes. These bullet-proof rubber lin-

ings saved the lives of many of our airmen. This same solvent-resisting property is important for coating rollers used by the metal decorators.

A few years later, a chemist, Father Neuwland, at Notre Dame University, was experimenting with acetylene polymers. His experiments also resulted in a rubber-like polymer. The elastomer he produced from acetylene was found to have far better resistance to petroleum oil solvents than natural rubber. It was first manufactured commercially by Du-Pont and marketed under the trade name of Duprene, which later became Neoprene. Chemically it is chloroprene and today there are many types of chloroprene elastomers produced. Aside from their good solvent resistance, they also possess good tensile strength and elasticity, nearly approaching that of natural rubber. These properties also make the chloroprenes important for inking and coating rollers.

#### Early DuPont Work

DuPont started to produce the chloroprenes commercially in about 1934. The production and consumption of this polymer showed a steady growth, finding its greatest use for rubber products which come in con-

From a talk given at the NMDA convention, Chicago, Oct. 21, 1957.

tact with oils. It was made by a batch process and its manufacture was somewhat hazardous since the process consisted in polymerizing acetylene gas. In the fall of 1937 the one and only plant producing chloroprene was wiped out by an explosion. This immediately cut off the supply to many rubber manufacturers producing specialty items — particularly rubber products to resist the swelling action of oils and solvents, such as gasoline hoses, bearing seals, printing rollers and many others.

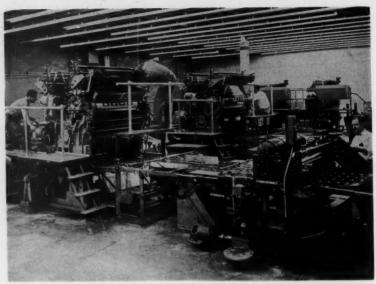
To rebuild the plant and resume production required several months. The users of Duprene had to find a substitute in order to continue producing their oil-resisting items which, by this time, were very much in demand.

A substitute was found — the Germans were producing a copolymer of butadiene and acrylonitrile which they called "Perbunan." None had been offered for sale in the United States but it turned out that they had a rather substantial stock-pile and could produce it in rather large quantities, so it was offered for sale in this country. Bear in mind this was about a year before the Germans invaded Austria.

Several million pounds of Perbunan came to this country from Germany in the few months following the Du-Pont explosion. In many cases it was found to have superior properties to Duprene, so every pound that arrived here was quickly grabbed up by those producing products requiring oil resistance. It is interesting to note here that the Germans didn't take our money for their synthetic rubber. Instead they wanted, and received, crude rubber as payment. This they used to extend their own synthetic rubber for tires which they knew would be so vital to their motorized army.

#### War Ends Source

Once the war started and the British blockade began, that was the end of German Perbunan. Fortunately, the Standard Oil Company of New Jersey had acquired know-how for producing nitrile rubbers from the Germans through an exchange of patents. This patent exchange, you



Synthetic rubber is playing a big role in modern metal decorating plants like the can division of Crown Cork & Seal, Philadelphia.

will recall, caused a lot of controversy in this country, since many thought the Germans acquired in exchange know-how for producing high octane gasoline which gave their war planes such an advantage during the early part of the war. Actually we received the best of the bargain since we obtained in addition to synthetic rubber know-how, very valuable information which quickly enabled us to produce synthetic toluol. Without this, to produce TNT, we could easily have lost the last war. By 1940 production of Buna N or nitrile rubber was well under way in this country, and today there are several nitrile rubbers avail-

The real impetus to our synthetic rubber development started with the government synthetic rubber program. When this gigantic research project was started we were badly in need of a rubber substitute. Our supply of crude rubber from the Far East had been completely cut off by the Japs. A substitute for crude rubber was absolutely imperative. We had, of course, a rather modest stockpile of crude rubber, hurriedly built up prior to the attack on Pearl Harbor, Dec. 7, 1941. The very next day after Pearl Harbor the Japs landed on the Malayan Peninsula. They swarmed over the rubber lands of Burma and the Dutch East Indies, and within three months they had overrun plantations which produced 90 percent of the worlds' rubber.

#### U. S. Rubber Consumption

Even in peace time, the United States alone had used more than a half-million tons of rubber a year. Without rubber from the Far East all the United Nations together could count on little more than 150,000 tons of rubber a year. By 1941 the United States had made only about 8,000 tons of rubber-like material which we called "synthetic rubber." This was all special purpose rubber, not very suitable for tires. The early research work which had been done in this country prior to 1941, in an effort to find a substitute for plantation rubber, was very important.

It was this early research which led our government to decide on a butadiene/styrene copolymer as the most practical solution for our rubber tires. By 1944 we were producing this elastomer, which turned out to be an excellent substitute for Hevea rubber, at the rate of more than a million tons per year. It is fortunate indeed that we did not waste time actually trying to synthesize plantation rubber.

However, since the major uses for rubber by the metal decorator, i.e. inking rollers, coating rollers and offset blankets all require an elastic

# YOUNG BROTHERS METAL DECORATING OVEN

it's engineered to meet individual production requirements for SPEED, QUALITY, **ECONOMY** 



Battery of large, high speed D. E. F. Metal Decorating Ovens



D. I. F. Metal Decorating Oven with zone control and recuperative cooling



High speed, combination D. E. F. and D. I. F. Metal Decorating Oven

A metal decorating oven is a highly mechanized production unit in a specialized field — and it will only perform at maximum efficiency in your plant if it has been engineered and built by men well versed in every phase of oven engineering.

In Young Brothers Metal Decorating Ovens you get the experienced engineering and precision operation which are vital in producing high speed, high quality metal decorating. Young Brothers "knowhow", based on 60 years of building individually designed ovens for all baking and drying processes, combined with a thorough knowledge of the Metal Decorating Industry is your assurance of better finished products at lower cost.

A wide variety of basic sizes and types of Young Brothers Metal Decorating Ovens are available to meet your specific requirements. Investigate what their advantages can mean to you - details are available without obligation. Write today!

#### YOUNG BROTHERS COMPANY

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material with good solvent resistance, Neoprene, Thiokol and the nitrile polymers must be used instead of natural rubber, or polymerized isoprene, if it were available; or even the synthetic butadiene/styrene copolymer used for tires.

The development and final mass production of both styrene-type (Buna S. or GR-S) and isobutylene-type -Butyl, were by far the most important rubbers from a tonnage standpoint. These rubbers solved the critical tire situation both for the military and civilian needs. Our requirement for tires, even in peacetime, is about 75 percent of the total elastomer consumption which is presently over 1,250,000 gross tons per year. While these non-oil resisting elastomers may not be too important to the metal decorator, they nevertheless are the backbone of the synthetic rubber industry.

#### **Unlimited Supply**

The fact is, however, that we now have an almost unlimited supply of the oil-resisting polymers previously mentioned. It is also encouraging to know that the oil resistance and physical properties of these elastomers are continually being improved. There is still further need, however, for oil-resisting elastomers with higher tensile strength and abrasive resistance. This is particularly true where extreme softness is required for some types of metal coating rollers. If stronger and tougher rubbers were available, then softer compounds could be made to give greater service life.

#### Blanket-Type Sleeve

An interesting synthetic rubber development which has been moving along with some amount of success for the past two or three years has been the substitution of a blanket-type sleeve for the conventional coating roller.

The transportation of large coating rollers to and from the roller manufacturer, to be recovered, may in some cases involve considerable expense, particularly if the metal coater doesn't happen to be located near the plant of a roller manufacturer. The round trip trucking charges may be as much as 25 percent of the total cost involved in recovering the old roller core. This is usually true where heavy metal cores are involved which require strong metal cases to insure safe transportation.

The handling of coating rollers in and out of the metal coater's plant, as well as the inconvenience of storing spare rollers and shipping cases, further increases the overall cost of coating rollers.

To eliminate, or at least reduce freight and handling costs, work has been done on developing a synthetic rubber blanket or sleeve for the coating roller surface. The shipping weight of such a sleeve can be cut to about five percent of the original roller and necessary shipping case. When the blanket-type roller is used the only shipping costs involved are for the light-weight sleeve from the roller maker to the coater. The sleeve can be shipped in a light-weight fiber carton. Thus the round trip shipment

(Continued on Page 119)

#### Wagner Metal Deco. Catalog

Wagner Litho Machinery Division, National-Standard Co., has published a new 30-page, two-color catalog on its line of metal decorating machinery.

Included in the catalog are pictures, specifications and engineering drawings of the Wagner direct externally fired ovens. The D.E.F. ovens range in sizes to accommodate 34 x 36" tin plate up to 45 x 78" black plate for 55 gal. steel drum bodies.

Also included in the booklet is information and illustrations on spot coating machines, coating and varnishing machines, offset proving presses and various other Wagner products.

Additional information is available from the company, 555 Lincoln Ave., Secaucus, N. J.

#### **Edwards Displays Cans**

Edwards Can Co., Chicago, displayed its line of portable auxiliary gasoline cans at the 17th National Garden Supply Show in Chicago last month. Most were attractively lithographed by Caspers Tin Plate Co. but a spokesman complained that it was having difficulty with ornamentation of a new 3-gallon can fabricated from heavy 20-gauge steel. They tried decals, he said, but hand application was unsatisfactory and expensive, and the decals didn't stand up in use. The company, he made known, was looking for a metal decorator with facilities for handling the job on the extra heavy 20-gauge can.

#### **Opens Coil Steel Plant**

A new facility for processing sheets of tinplate for can-making from 15,000-pound coils of steel was opened at Milwaukee Nov. 13 by American Can Company.

The addition to the company's present can-making plant is part of Canco's \$27 million program to set up similar facilities in strategic canning areas. Milwaukee's coil processing plant is the fourth of its type put into operation by Canco this year.

About 50 persons will be employed initially at the new facility, Canco

said. With the coil plant, the company employs about 850 persons in Milwaukee.

#### **Gratz Receives PIP Citation**

Arthur H. Gratz, immediate past president of Printing Industry of Pittsburgh, recently received a special citation from the group for his work in expanding its membership, services and activities.

Mr. Gratz, who is president of Herbick & Held Printing Co., was succeeded by Arthur W. Rippl, head of the Arthur W. Rippl Printing Co., and one of the founders of the printing association. Other officers recently elected are Robert M. Edgar, Neyhart Printing Co., secretary; D. Eugene Shaw, Smith Bros. Co., Inc., vice president; and C. Harold Thunell, Pitt Photo Litho Co., Inc., treasurer.

The association also added six new members to its 10-man board.

Mr. Gratz will continue to serve the industry as a member of the national board of directors of Printing Industry of America, Inc.



OOKS like the Washington Litho Club is out to surpass the Chicago Club in publicity for the National Association of Litho Clubs convention. Last year's Chicago committee used a series of four-color process folders and cards to drum up interest in the convention. Just received is the first Washington effort: a really impressive four-color folder showing the cherry trees along the Potomac in full bloom, with the Washington Monument in the background. A message from the women's committee for the 1958 NALC convention in the 7 x 10" folder describes some of the sights to be seen during the convention May 1-3. It will be hard to maintain the pace of that promotion piece.

Another news release, this one from the Lithographers National Association, extolls the virtues of Phoenix, Ariz., at any time of the year but particularly around April 28-May 1, 1958, which happens to be the dates for the annual convention. If you plan to take a vacation before or after the convention, there are such things as a horse show, flower and antiques show, little theater productions, art show, and other local celebrations. And if you consider such things just a little high-toned for a conventioneer, there's always Las Vegas!

The British publication, Printing Press and Publishing News, reports another entry in the publications-by-offset field: the monthly Books and Art, which has been lithographed with "complete success."

The lithographing industry's research center at Glessner House in Chicago appears to have been used as an "educational" institution of sorts, fully half a century before it was taken over by the Lithographic Technical Foundation. This interesting sidelight on the venerable building was revealed in a recent issue of the *Chicago Sunday Tribune*, which, for years, has carried a feature column headed "When Chicago Was Young."

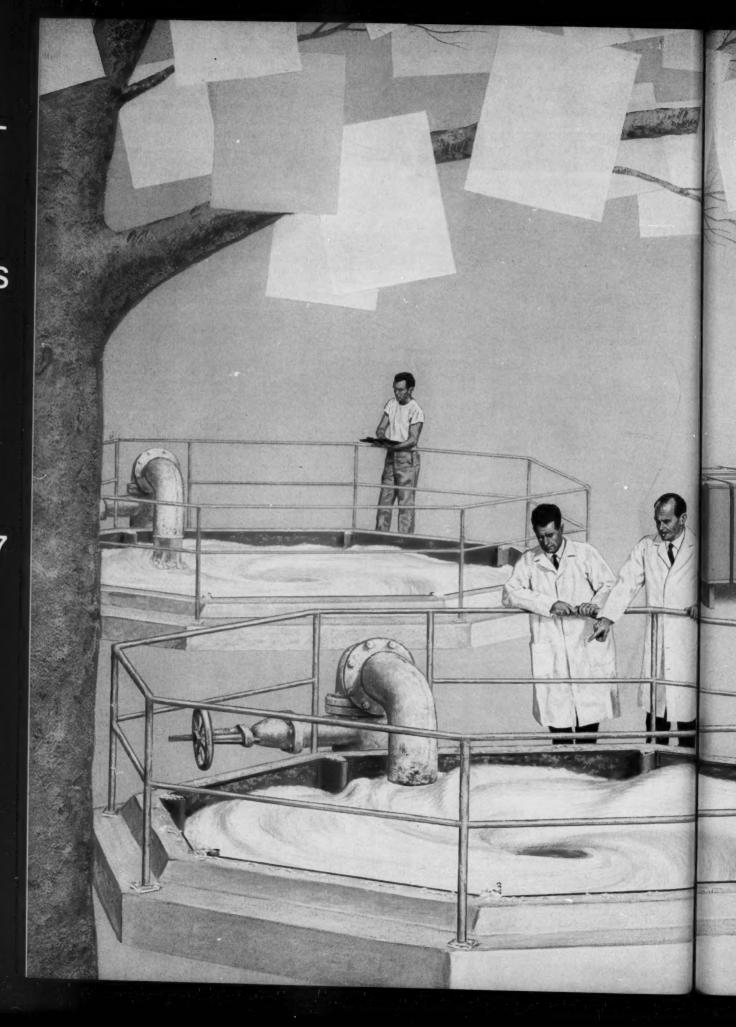
Back in 1894, the story relates, the founder of the University of Chicago, Dr. William Rainey Harper, was concerned about the social life of the many noted scholars and scientists whom he was assembling on the campus. To help get them into social circulation, Mrs. John J. Glessner, wife of the reaper works president, who had erected the grey stone structure as their home at 18th and

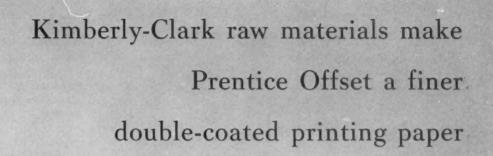
Prairie, organized a "Monday Morning Reading Circle" which met at Glessner House once a week from November to May.

Next time you visit the LTF laboratories try to imagine the fashionable elite of the college world and the Prairie avenue Gold Coast buzzing with excitement as they strove to catch up with current literature in those oak paneled rooms, each with its ornate open fireplace. Glessner House still buzzes, on occasion, but the excitement today is more likely to deal with a new platemaking technique than with the sociologicial implications of East Lynne, or the latest volume by Horatio Alger, Jr.

A beautifully lithographed cast coated folding board in four colors is on our desk, heralding Champion Paper Co.'s new Kromekote product. In an accompanying message, the company says the material is not a laminated stock but a truly superior cast coated board. It is available in 16, 18, 20, 22 and 24 pt. calipers and should give lithography another advantage in this folding board field.







MAKING a quality printing paper begins with quality raw materials. This is why Kimberly-Clark takes exceptional care in the selection of every ingredient.

Kimberly-Clark quality control begins with the growth and selection of trees from Kimberly-Clark's own forests. Premium pulp blends, clays and chemical additives—only the finest in raw materials—enter the manufacturing stage.

Precise handling of these materials on new, modern machines plus double-coating application creates in Prentice a truly superior printing paper.

Prentice offers you exceptional brightness and opacity. Like all modern Kimberly-Clark printing papers, Prentice gives your work brilliant contrast, sharpness and true fidelity of tone characteristic of fine printing. While Prentice is an offset enamel, you'll find it performs exceptionally well with gloss inks and letterpress printing.

You'll do your best work and be a finer craftsman with Prentice. Investigate it now. Call your Kimberly-Clark distributor or write to us for press-size, printed samples.

#### Everything comes to life on Kimberly-Clark papers

For Lithography:

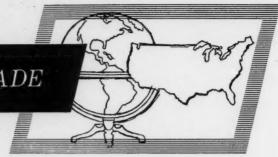
Prentice Offset Enamel, Lithofect Offset Enamel, Shorewood Coated Offset, Fontana Dull Coated Offset, Kimberly Opaque. For Letterpress:

Hifect Enamel, Trufect Enamel, Multifect Coated Book.



Kimberly-Clark Corporation • Neenah, Wisconsin

# NEWS about the TRADE



#### Million Dollar Merger In St. Louis



Samuel Langsdorf, Jr.

UNIVERSAL PRINTING CO. and Missouri Printing and Engraving Co., St. Louis, have announced a million dollar transaction which will merge the two companies. Completion of the transaction, it is believed, will result in the largest lithographic operation in the Mississippi Valley area.

Samuel Langsdorf, Jr., president of Universal, will retain his present position, while Milton Fischmann, president of Missouri Printing, will become executive vice president and a member of the board of Universal. The printing and lithographic equipment of Missouri Printing will be transferred to Universal. Under the new arrangement Universal should employ approximately 500 persons, Mr. Langsdorf stated.

Total assets of the two firms are estimated at over two million dollars, the companies having installed new equipment in the past year and a half amounting to more than one million dollars.

Universal Printing Co. is located in a million dollar plant (featured in



Milton Fischmann

MODERN LITHOGRAPHY in Nov. 1956), which has 55,000 sq. ft. of floor space. With one acre in use on a  $3\frac{1}{2}$  acre site, the plant is planned for an expansion of 75,000 more sq. ft., in the near future.

Missouri Printing and Engraving Co. will provide 33,000 sq. ft. to the new company, with an additional 13,000 in an auxiliary plant.

The transaction will give Universal 16 single and multi-color presses for offset as well as additional cameras and attendant lithographic equipment. The merger also provides complete typesetting facilities, mailing service, and a more flexible letter-press operation.

Mr. Langsdorf emphasized that the 16 offset presses, covering any size printing requirement, further augment the plant's concern with quality in color reproduction.

Universal is especially known for its high quality and exactness in color reproduction. An electrically engineered fluorescent lighting system assures a standard light level throughout the 24-hour schedule on which the plant operates and provides an even greater accuracy in color determination. Adequate power prevents any fluctuation, and the plant is provided with an even daylight illumination at all times.

#### Separate Division In BDSA

The Department of Commerce last month established a separate division for printing and publishing in the Business and Defense Services Administration and appointed Horace Hart as acting director.

There are 25 divisions of the BDSA which sit as an overall council and represent some 500 industries in the United States.

Printing Industry of America, following the announcement, noted the significance of the move and pointed out that "this is the first time in peacetime that the printing and publishing industries will have a representative actively participating in the top level discussions and policy-making conferences in BDSA." It means that there now will be an opportunity for the industries to participate directly in the development of the overall BDSA program.

PIA also commended H. B. Mc-Coy, the administrator of BDSA and Horace Hart for their efforts in bringing this recognition to printing and publishing activities.

H. R. Kibler, president of PIA, in a letter to all PIA members on Nov. 22, commented on the importance of the move and declared that "this elevation and recognition of the importance of printing and publishing by the designation of a separate division, is a genuine achievement and places our industry in a position

to assume its national responsibility in the councils of government." He expressed his gratitude to Mr. Hart and Mr. McCoy, and complimented "the many other industry representatives who have consistently and patiently worked to point out the importance of proper recognition for printing and publishing."

In his letter he also discussed the recent first meeting of the National Defense Executive Reserve, which he and PIA past president John M. Wolff attended. This group is the nucleus of an executive reserve force which will consist of experts in transportation, production, manpower, etc. They will be available to the government on a local or national level should the need ever arise to disperse the government.

#### HST To Get Franklin Award

Harry S. Truman has been chosen to receive the Franklin Award for Distinguished Service to be presented at the annual Printing Week Dinner at the Hotel Commodore, New York, Jan. 14.

Mr. Truman will be the principal speaker at the dinner, which is the featured event of Printing Week in New York and is sponsored by 65 organizations in the printing, publishing and advertising fields. The award will be presented to the former president by Robert L. Sorg, chairman of the board of the association.

Further news on Printing Week in New York and around the country will be published in the Jan. '58 issue of MODERN LITHOGRAPHY.

#### Litho Sales Continue to Rise

The dollar sales of the commercial printing and lithographing industry of the New York metropolitan area for the third quarter of 1957 were 5.4 percent greater than for the same period of 1956, according to the monthly sales index of the New York Employing Printers Association.

For the first nine months of this year the industry's dollar volume of sales was 9.6 percent greater than for the same period last year.

The second and third quarters of this year have shown a continuing decline in the rate of increase as



The executive committee of the LNA bank stationers section which met in Chicago Nov. 7, 8. Seated (1.r.) John H. Harland, president, John H. Harland Co., Atlanta, executive committee representative: Edward A. Robinson, gen. mgr., J. C. Hall Co., Pawtucket R. I., vice-chairman; John J. Blackwelder, staff representative. Standing (1.r.) Oscar Whitehouse, LNA executive director; Malcolm Dennison, vice president, Rocky Mountain Bank Note Co., Salt Lake City; E. Bennett Young Jr., president, Young & Selden Co., Baltimore, Md.; Fred J. Kraemer, Jr., executive vice president, Dennison & Sons, Long Island City; and R. B. Calvert president, The Reserve Litho & Ptg. Co., Cleveland.

#### **Bank Stationers Meet**

Ninety of the nation's leading bank stationers, representing every important printing area in the country, participated in a two-day conference of the LNA Bank Stationers Section in Chicago Nov. 7 and 8.

Clark R. Gregory, Jr., chairman of the group and president of Herald Printery, Louisville, and Edward A. Robinson, vice-chairman, and general manager of The J. C. Hall Co., Pawtucket, presided at the various sessions. Oscar Whitehouse, LNA executive director, met with the section's executive committee and attended the

general sessions.

"Offset vs. Letterpress Imprinting" was the subject of one discussion conducted by Hugh Irwin, manager, Addressograph - Multigraph Corp., Cleveland, and Roman J. Caton of the same company's market development department.

The speakers demonstrated the Multilith press, running check form and imprinting simultaneously and imprinting pre-printed checks. They also demonstrated the technique on paper and metal plates and presented a slide film of the new Multilith check imprinting duplicator.

compared with the first quarter when sales were up 13.5 percent over the same period last year. Second-quarter sales were up 10 percent.

According to Don H. Taylor, president of the New York Employing Printers Association, the third-quarter decline in the rate of increase over 1956 indicates that printing sales are closely following the general business pattern. He said that printers may have an improved last quarter if

busines firms increase their printed sales promotion.

The association's index is based on reports from a representative cross-section of the entire commercial printing and lithographing industry of the New York metropolitan area. It is New York City's second largest manufacturing industry, with sales running at an annual rate estimated at one and a quarter billion dollars for 1957.

"For fixing capacity and speed... Hunt

FLASH-O-GRAPH Fixer

beats them all!"

Reports like this come in almost daily from photographers who are fixing *more* film and *more* prints with Hunt FLASH-O-GRAPH Fixer than they've ever done with any other fixer.

They get fixing speed as well. With Hunt FLASH-O-GRAPH, photo-mechanical film clears in less than 20 seconds; commercial pan film in less than 50 seconds; and photo papers fix in less than 90 seconds.

There's an added reason too, which assures better results. We mean the convenience of controlling the hardening quality of both film and prints to suit your own conditions of temperature and humidity, by adding just the right amount of hardener from the separate bottles supplied in each carton.

Order a carton of FLASH-O-GRAPH today and prepare for a pleasant surprise. You can order direct from any Hunt Branch, or write for price list to Palisades Park, N. J.



Each carton of Hunt FLASH-O-GRAPH Fixer contains four 1-gallon jugs of Fixer, four 12-ounce bottles of FLASH-O-GRAPH Hardener, and one measuring graduate.



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Without a cent of added cost, you can enjoy the superior offset performance you get only with double coating.

You get double coating advantage in every Consolidated grade. PRODUCTOLITH, CONSOLITH GLOSS and CONSOLITH OPAQUE are double coated on both sides in a single high-speed operation—right on the papermaking machine! There are no extra manufacturing steps—no extra cost.

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results and costs. You'll agree, double coating
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a complete line for lithographic and letterpress printing CONSOLIDATED WATER POWER AND PAPER COMPANY SALES OFFICES: 135 S. LA SALLE ST. \* CHICAGO 3. ILL.

# Printing Arts Celebrates 25th Year In Grand Rapids







Scenes at Printing Arts Co., Grand Rapids. (l. photo) Setting up the ink fountain on a new two-color Harris 23 x 35" press installed April 1957. Another two-color press can be seen in the background. (r. photo) Offset platemaking department. (bottom photo) View of the camera department. Shown are an ATF 18" and a 24". The engraving department is in the background.

THE Printing Arts Co., 150 Bostwick Ave., Grand Rapids, celebrated its 25th anniversary on November 12, with a party and dinner at its plant.

Headed by Lester A. Matthews and Ernest J. Miller, two of the five founders, the company offers its customers complete service from layout to the finished product.

Employing approximately 40 persons, including five artists, the company has, in addition to its own art department, a full range of letterpress, offset and binding equipment together with complete offset and letterpress plate making departments.

Printing Arts was founded on Nov. 12, 1932 through the purchase of the Tandler Co., at 51 S. Division Ave. The purchasers included Mr. Miller and Mr. Matthews, Jack M. Testa, James Zoeter and Clarence DePlanta. Mr. Miller and Mr. Matthews are now the sole stockholders.

Originally letterpress, the company added offset in 1934, to begin a well-planned replacement and enlargement program. On Oct. 25, 1948, it moved out of the old building, occupied since its founding, and began operations in an 18,000 sq. ft. building especially designed for the complete serv-

ice it offers to its customers. The new building contains fast, modern equipment which has greatly improved working conditions and efficiency for the production of all types of printed matter, from the simplest piece to the most elaborate color catalogs.

Growing pains struck Printing Arts again in 1956 due to increased production, and a 5,000 sq. ft. addition was made to the building and occupied in Jan. of 1957. It is now used for the bindery and paper storage.

Maintaining a policy of keeping abreast of the latest developments in the graphic arts, the company has recently added two 23 x 35" two-color Harris offset presses, two 28 x 41" one-color Miller printing presses, two single-color Harris offset presses and one Miller 20 x 26" Simplex.

At present, the company's operation consists of commercial printing such as brochures, stuffers, folders and the like.

To mark its recent milestone, the company has also published an attractive anniversary folder printed half by offset and half by letterpress.

Over a period of 25 years, Printing Arts Co. has grown to be one of the leading offset-letterpress houses in Michigan through its successful application of complete-in-one-plant production offering fast, efficient and high-quality service to its many customers.

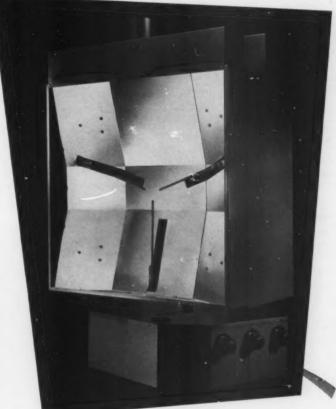


View of the company's printing department. Letterpress is in background.

# Announcing the New GRAFAR ARC PRINTING LAMP

A Radical Departure from the Single Phase, Two-Electrode Arc Lamps!

- Operates from standard, 3-phase supply
- Burns a trim of three 9mm x 12" copper coated White Flame carbons to produce a stable single arc light source which reduces any tendency for dot undercutting.
- Delivers three times the usable light output possible with 140 ampere Grafarc lamps. Exposure time can thus be cut to one third. Any attempt to produce such increase in light intensity with single phase or dual single phase arcs would require expensive feeder service and switch gear, and still unbalance the whole threephase shop system. The electrical loading throughout all three phases is evenly distributed with the Tri-Power.
- Utmost light uniformity with intense illumination of printing frames 50" x 70" and larger.
- When the lamp is energized, a rugged dual function motor instantly advances the carbons, strikes the arc, which quickly settles down, backs up the carbons to establish the correct arc gap length, and then steadily feeds the carbons at a rate which maintains the proper gap throughout the 21/2 hour burning of the trim. The motor action is sensitive to both current and voltage conditions at the arc, and automatically compensates for any variables in the burning rate of the carbons. Ample motor size insures reliable drive of the carbon feeding mechanism at all times.
- Indicating meter on the transformer is used in conjunction with convenient tap-changing switches and permits accurate compensation for line voltage changes.
- New finger-tip control automatically separates the carbon holders to their full expanded length for insertion of a new carbon trim. The need of a clutch and manual return is eliminated.
- Lamp and long life glass insulated type transformers comprise one compact easily portable
- by a blower which is optional equipment. The lamp has provision for exhausting gases literature
- Lamp may be rotated 360°.
- Easy adjustment of lamp height.
- Ball bearing type lead screw and linear action ball bushing.
- Quick-connect terminal panel for three phase line connections.



#### THE STRONG ELECTRIC CORPORATION Toledo 1, Ohio 17 City Park Avenue

Please send literature and prices on the Grafarc Tri-Power Arc Printing Lamp.

STREET CITY

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#### **Competition Deadline Nears**

Deadline for entries in the 8th Lithographers Awards Competition and Exhibit, sponsored annually by the Lithographers National Association, is Jan. 10, 1958. The Awards and Exhibits committee met Nov. 26 to choose judges for the competition from among the country's leading designers, art directors, and production and advertising experts.



Edward K. Whitmore, president, Oberly & Newell Lithograph Corp., chairman of the committee, announced that 35,000 four-color process announcement brochures and 100,000 entry blanks were mailed late in November to lithographers, national advertisers, advertising agencies, designers, trade associations and numerous others throughout the country. The brochures and entry blanks can be obtained by writing to the LNA Awards Competition, Lithographers National Association, 381 Fourth Ave., New York 16, or 127 N. Dearborn St., Chicago 2.

Entries, to be judged on the basis of lithographic excellence, art and design and functional value, accompanied by a \$5.00 fee, should be sent to LNA Awards Competition, c/o George V. McLaughlin, New York Trade School, 312 E. 67th St.

Larger Plant For Azoplate

Azoplate Corp., Summit, N. J., manufacturer of presensitized lithographic plates, has announced that New building near Summit, N.J. recently purchased by Azoplate Corp. It contains 50,000 sq. ft. of space and is on a six-acre plot.



it plans to move into a much larger plant at New Providence, a few miles west of Summit, shortly.

F. W. von Meister, president of the company, said that a contract had already been signed for the purchase of a new building, and that completion of the deal awaited only settlement of legal details. He also disclosed that the firm plans to add substantially to its sales staff.

One of the Engelhard Industries, Azoplate was formed in October 1952, by purchase of Keuffel & Esser Co.'s lithoplate department. K&E had entered the lithographic field in 1947 when the U. S. Army sought development of a German process for making presensitized lithographic plates. Employing a diazo compound, the original German process was suitable only for actetate/paper plates. When, in 1951, a competitor brought out a presensitized aluminum plate, K&E

decided that lithoplate technology was moving too far afield from its basic engineering - supply business and agreed to sell out.

#### Ward Takes B&B Sales Post

Charles A. Ward, president of Brown & Bigelow, St. Paul, has again assumed the additional duties of general sales manager of the firm. This action follows the resignation of Dan W. Brabeck from a post he had held for nearly three years. Mr. Brabeck, who is also a vice president of the company, is on a leave of absence.

#### Dinner Honors Schulkind

David W. Schulkind, president, E. P. Lawson Co., subsidiary of Miehle-Goss-Dexter, Inc., was honored at a dinner on Nov. 12, sponsored by the graphic arts and fine paper division of the Federation of Jewish Philanthropies.



Judges for the nationwide Excellence of Lithography Competition selected these ten examples from the more than 1,200 entries. The judges were, left to right, Albert Sperisen, vice-president, Foote, Cone and Belding; Alberta Rudolphi, 1956-57 president of the San Francisco Art Directors Club; W. O. Morgan, offset editor of the Graphic Arts Monthly, Chicago; and Herman J. Schunter, past-president of the San Francisco Club of Printing House Craftsmen. (Additional details in story on Pg. 105.)



# THE VENETUR

ar the brightest and whitest!

what a sheet!

This is the New MONTCLAIR VELLUM, Vellum finish, basis 25 x 38, 100 lbs. Lithographed in 4 colors in U.S.A.

For color or for black and white, the inviting surface of the New MONTCLAIR VELLUM provides a perfect background for high quality lithography. Its super-white brilliance is accompanied with extra opacity. It is preconditioned to give trouble-free press performance. Write to the mill for sample sheets and make a test run in your own plant. Put a few sheets of the New MONTCLAIR VELLUM through the press with any job you are running. Then compare! You'll learn why lithographers everywhere are turning to premium quality MONTCLAIR VELLUM for top results.

Kitchburg Paper Company

MILLS AND GENERAL OFFICES: FITCHBURG 6, MASS. NEW YORK OFFICE: 250 PARK AVE., N.Y. 17

# A NEW, BRIGHTER, WHITER OFFSET PAPER

It's always clear sailing with this brilliant new sheet. It is tops in press performance; tops in fidelity of reproduction; tops in meeting every requirement of high quality lithography. There is nothing finer than the New MONTCLAIR VELLUM. It is the greatest sheet in our 96 years of papermaking.

Fitchburg Paper Company

OTHER FITCHBURG PAPERS

Fitchburg Vellum — Diamond-White Vellum Fitchbright — Hillcourt Offset — Hillcourt Opaque—Montclair Vellum—Publishers Offset Fitchburg Golden Parchment

MILLS AND GENERAL OFFICES: FITCHBURG 6, MASS. NEW YORK OFFICE: 250 PARK AVE., N.Y. 17



One of the attractions at the sales center is this product wall display showing all of Kimberly-Clark's line of products. The medallions in the center wall indicate the marketing fields in which Kimberly-Clark products are well known.

#### **ML Tours Kimberly-Clark Sales Center**

Kimberly-Clark Corp. last month held an open house at its sales promotion center in Neenah. Wis., to acquaint the press with the purpose of this unusual building. ML toured the center, which was started in 1951 to present the Kimberly-Clark story.

Designed to sell K-C products, policies, facilities and people to prospects and new customers it also provides an attractive setting for various sales meetings and training programs.

The center is beautifully furnished and decorated. It has an auditorium that seats about 200 persons, a meeting lounge, several display areas, and its own kitchen facilities.

The building is in constant use, with sometimes as many as four meetings a day taking place, at times, two simultaneously.

Manager of the center is Robert Lloyd, whose duties include helping to plan programs, arranging visual aids and other supplementary material for meetings, and supervising a staff which does everything from handling hotel reservations and transportation problems for K-C guests to arranging tours and recreation.

Launched as an experiment five

years ago, the center has become an integral part of the corporations sales operations. It has helped to tell the product and institutional story of Kimberly-Clark to thousands of sales personnel.

#### LTF To Hold Film Forums

LTF has developed a new means of putting on its technical forums.

Wherever the LTF technical forums, conducted via live closed circuit TV, have been presented, they have been received with much enthusiasm. Because of the cost of the television facilities, only the relatively large centers have been in a position to sponsor such forums,

Recently, the Foundation completed more than six months' work in the preparation and production of full color films (six units) which, together with two members of LTF's research staff instead of the six or seven required for the live TV forums, can be used for conducting the forums in many of the smaller centers. The first film version forum will be conducted in Hartford on Nov. 29 and 30.

The areas that are sponsoring these film version technical forums are each

contributing \$1,000.00 to help defray the cost of preparing and producing the films. There is no thought of using the films as club program features or renting or loaning the films to plants or groups at this time.

Aside from making the forums possible to smaller areas, the film version technical forum wll help to overcome to some extent the great amount of time away from the laboratory of research personnel. As already explained, only two LFT men will be required for each forum instead of the six or seven required for the live TV forums. Thus, LTF's men will be devoting more of their time to actual research work so essential to the industry's progress.

#### LTF Offers New Audio Visual

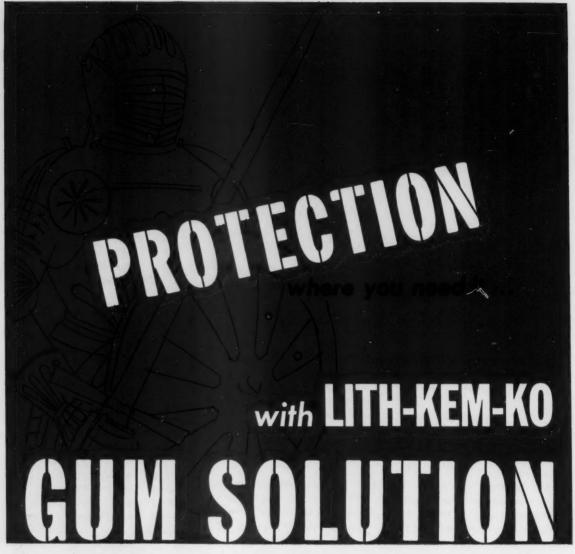
Audio Visual No. 17, "Sheet Control on the Offset Press," has just been made available to subscribers of the Lithographic Technical Foundation's audio-visual demonstration program. The new film completes a series of four covering presses. The previously issued ones in the series are "Inking and Dampening Systems," "The Printing Unit of the Offset Press," and "Packing Cylinders of the Offset Press."

Other audio-visuals available through the program are "Platemaking Troubles," "Cronak," "Improved Desensitization," "Gauges and Instruments," "The Process Camera," "The Offset Press—Plate Handling," "PH," "Densitometry," "Sensitivity Guide," "Paper for Offset Lithography," "Lithographic Ink," "Lithographic Applications of Densitometry," and "Plate Testing."

#### Weber Represents Litho Firm

Einson-Freeman, Long Island City, N. Y., has appointed Henry R. Weber & Associates, Los Angeles, as its western sales representatives.

Mr. Weber had been Einson-Freeman's Los Angeles representative for several years until leaving to join Western Lithograph Co. as a vice president eighteen months ago. He recently left Western to establish his own point-of-purchase and merchandising business, with Einson-Freeman as an initial client.



LITH-KEM-KO Gum Solution is designed to give your plates the protection they need — in storage or on the press.

LITH-KEM-KO Gum Solution is a clear scientifically filtered solution with added preservative to keep it from souring. It stays clear and clean for a long time.

You can buy LITH-KEM-KO Gum Solution in almost any quantity you need. We suggest the 30 or 54 gallon drums. They are specially lined and you get a big "break" in the price.

LITHO CHEMICAL

& SUPPLY CO., INC. A

AN HARRIET PLACE - LYMBROOK L. I. HEW YORK

1506 SANTA FE AVE LOS ANGELES CALIFORNIA

Write for your copy of the LITH-KEM-KO Catalog.
It gives complete information on products
and instructions on platemaking.



Judges for the graphic arts competition sponsored by the Simpson Paper Co. are (l.-r.) A. R. Tommasini, superintendent and designer, University of California Press; Clive Atherton, president, San Francisco Club of Printing House Craftsmen; and William Snyder, art director Stanford University Press. Entries were submitted by printers and lithographers in 11 western states.

#### Cramer To Represent Di-Noc

Cramer Dry Plate & Film Co., St. Louis, has been appointed dealer in Chicago, New York and St. Louis for the products of Di-Noc Chemical Arts, Inc., Cleveland. The Di-Noc line includes two series of commercial films sold under the trade names "Dinolith" and "Dinographic."

#### Fire Sweeps Cuneo Press

A disastrous fire which swept the Kokomo, Ind., branch plant of Cuneo Press, Chicago, on Sept. 25, caused estimated damages of over \$1,000,000 but spared the newly enlarged offset department, a company spokesman stated. None of the big new offset presses which had been erected in recent months was damaged, although operations, along with those of other departments, were temporarily interrupted. Cuneo Press has other offset facilities at branch plants in Milwaukee and at Cambridge, Mass., where it recently added a big multicolor offset press at the latter location.

Cuneo Press is observing its 50th anniversary this year. In addition to the parent plant in Chicago and those at Milwaukee, Cambridge and Kokomo, others are located at Philadelphia, Weehawken, N. J. and Los Angeles. The organization includes four divisions and five subsidiaries and affiliates. Leading products include the Hearst American Weekly and a

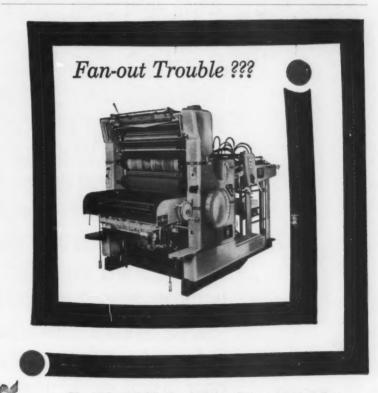
long list of mass-circulated national magazines and other publications, along with commercial advertising materials, books, etc. The business was started as a small hand book bindery which gave outlet to a young college graduate's love for fine books. The bindery has now grown to a multi-story structure among other mammoth buildings that make Cuneo Press one of that city's "Big Three" printing companies, not to mention the huge operations at the other six points. Among its Chicago assets, the company's Neo-Gravure division has gained fame for its monster rotogravure press, whose 19 units are 210 feet long.

#### Gegenheimer Buys Cleaner Co.

The assets of the International Press Cleaner and Manufacturing Company were acquired by the William Gegenheimer Co., Inc., Brooklyn, on Nov. 5.

Joseph Schultz, who invented the International Press Cleaner and founded the company, said that the sale would allow him and his son, George E. Schultz, to devote more time to the management of their lithographic business, the Great Lakes Lithograph Co., Cleveland.

The Gegenheimer Co. will continue to make, sell and service the press cleaners and provide replacement parts.



The Miller-E.B.CO 22 x 34 Offset Press with Feed Roll Register offers a quick, easy adjustment for the correction of "fan-out" on the tail of the sheet. The register bar, mounted on the transfer cylinder, is simply adjusted by means of finely graduated dials, to bow the sheet — either concave or convex — and thereby manipulate it to correct tail end distortion. Write today for a catalog describing the time and labor saving features of this fine press.

MILLER PRINTING MACHINERY CO. 1135 Reedsdale St., Pittsburgh 33, Pa.

MILLER PRINTING MACHINERY CO. OF CANADA LIMITED 230 Bay St., Toronto 2, Ontario

miller



#### Christmas 1957

AD the angel, Gabriel, said to Mary, "Fear not, for thou hast found favor with God...

Thou shalt bring forth a son and shalt name him Jesus. He shall be great and be called the Son of the Highest." This Christmas as we worship and rejoice in celebrating the Pativity of the Prince of Peace, let us ever be mindful of the spiritual meaning of this great day and to live by and defend the teachings of Christ. Let us again reaffirm our faith in God and give thanks to Him for our countless blessings. As a nation of free people, let us pray for the less fortunate, who are fettered by fear and ignorance -for the sick and those in sorrow, that they may find new hope and happiness. I Let us continue to pray for the unity of all nations, that all people may dwell in enduring peace and harmony. "And of His Kingdom there shall be no end."

INTERNATIONAL PAPER COMPANY

#### **NYEPA Holds Recruiting Lunch**

As part of its continuing program to recruit additional young men for the printing industry, the New York Employing Printers Association was host to 70 New York junior high school educational and vocational counselors last month.

The counselors, whose job it is to advise students on career opportunities in various industries, were briefed at the luncheon on opportunities in printing by Robert L. Sorg, Sorg Printing Co., NYEPA chairman of the board, and Don H. Taylor, president.

Initial copies of the latest edition of "Your Career in Printing," the Jr. who is retiring from the company and the direct mail industry on Dec. 31.

W. MacF. Beresford becomes executive vice president and H. Leslie Ward secretary-treasurer.

#### Martin Succeeds Oehme

James K. Martin was named general manager of the Chicago Lithographic Institute, following the resignation of Frank F. Oehme who had held the post since July 1, 1955. Mr. Martin has served as assistant manager for the past two years. Previously he had been with the Lithographic Technical Foundation engaged in research into the chemistry of lithography.

#### School Starts Color Course

Manhattan School of Printing started its first class in color separation the latter part of November. The course includes teaching of the latest methods in three-color process separation as well as other techniques. Modern equipment has been installed to be used exclusively for the course.

Training, highly individualized, is under the supervision of Mel Mark. No student was accepted for the course without a personal interview.

During the training period emphasis is being placed upon actually doing the work, standardization of techniques and the practical commercial aspect of producing quality work economically.

#### Your Career in Printing



association's 24-page booklet which explains the printing industry to young people making a choice of career, were distributed to the counselors. The booklet will also be sent to librarians and other key people in the public and parochial school systems of the city.

Other representatives of the association who attended the luncheon were Charles J. Stuart, Barnes Printing Co., vice chairman; Bernard W. Slater, Professional Printing Co., vice chairman; Henry B. Ashwell, The Equity Press, Inc., secretary; Seymour Udell, Ampco Printing Co., treasurer; and Randall H. Pakula, Bryant Press, Inc., chairman, education committee.

#### Gold Heads James Gray, Inc.

Jack J. Gold has been elected president of James Gray, Inc. effective immediately. He succeeds E. N. Mayer,

# NU-RESIN\* STAGE-OUT LACQUER

TO REMOVE UNWANTED PLATE LINES AND SPOTS!

#### NU-RESIN STAGE-OUT LACQUER

NU-RESIN is an exceptional lacquer which was designed after years of research and testing with platemakers over the country. Easy to apply and with FAST drying characteristics, NU-RESIN is a synthetic resin base lacquer that goes much further — has more mileage in actual use.

NU-RESIN resists developing and etching solutions and provides the platemaker with a positive stage-out lacquer which absorbs practically no moisture from the air.

NU-RESIN has been acclaimed by platemakers as a "new approach" to the plate stage-out process and results prove that time and money savings are appreciable with its use.



Write today for additional information and prices.

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   JOHN STARK LABORATORIES, Pearl Streen, South Hodley, Mass.
- SURE DGT LITHO SUPPLY, INCORPORATED, 1636 West Van Buren Street, Chicago 12, Illinois
- WESTERN LITHO PLATE & SUPPLY COMPANY, 1927 South 3rd Street, St. Louis 4, Missouri
   ZENITH GRAPHIC SUPPLY, 4-05 Twenty-Sixth Avenue, Long Island City 2, New York



#### Reed Comments on 'Automation'

In response to recent widespread publicity in reference to "automation," the president of Lithographers National Association last month issued a statement on past research by the Lithographic Technical Foundation and the industry.

Carl N. Reed cited the role of lithographic management in advancing the industry's technological growth during the past two decades. He said that "the lithographic industry has been relentless in seeking new methods and new techniques to improve the standards of its output." He also predicted an increase of developments and research in the light of present investigation.

His statement was prompted by articles appearing in the New York Times, the New York Herald Tribune, Time Magazine and the Wall Street Journal among others of the nation's press. The articles laid emphasis on "the great possibilities of research into automation, labor-saving devices and technological advancement in the lithographic industry." He pointed out that the articles gave the impression "that technological research was something new to the lithographic industry, and, in this instance, the particular brainchild of a single individual or a single organization."

Briefly mentioning the obvious contributions of LTF, he pointed out some of the technological and photomechanical improvements contributed by the joint efforts of litho management and its suppliers. The list included photo-composing equipment, the deep-etch method of platemaking, masking, web-fed presses, presensitized plates and many others.

In conclusion he said that, "as it has always been in the past, progressive lithographic management will provide the leadership and pave the way. This has always been management's attitude for a better litho industry . . . and it will continue to be so."

SOUTHERN GRAVURE SERVICE of California, Berkeley, gravure cylinder engraving firm, has changed its name to Western Roto Engravers, Inc.

#### PIA Announces '58 Schedule

Included in the Printing Industry of America's 1958 meeting calendar are four professional conferences and an annual meeting of each of its six special groups. Supplementing the four professional conferences will be two three-day intensive training classes in sales management and production management.

#### The schedule follows:

Jan. 22, 1958-Magazine Printers meeting (tentative), PIA Headquarters, Washing-

Jan. 23, 24-Printers Rollers Section annual meeting, Chicago, Illinois

Jan. 27-31-PIA President's Conference, Palm Beach, Fla.

March 1, 2-Trade Binders Section annual meeting, Statler Hotel, Detroit

March 10-12-Sales Management seminar -Chicago

March 13, 14-Sales Management conference. Chicago

March 20, 21-Rotary Business Forms Section annual meeting-Chicago

April 13-16-Mid-Year meetings at the Greenbrier White Sulphur Springs, W. Va., of the following: PIA Board, PIA Advisory Committee, UES Executive Committee, MPS Board, Ash Khan Crew, Foundation Trust Fund, Presidents of Local Associations, Managers of Local Associations.

May 8, 9-Financial Management conference, Chicago

June 5, 6-Web Offset Section annual meeting, Chicago

Oct. 13-16-PIA Convention, Dallas, Texas Dec. 1-3-Production Management training class. Chicago

Dec. 4, 5-Production Management conference, Chicago

The meeting of the presidents of local associations scheduled at the time of the mid-year board meeting will be a new event.

#### Merten To Litho Assn. Post

Harold A. Merten, Jr., vice president, Strobridge Lithographing Co., Cincinnati, was elected president of the Miami Valley Lithographers Association, Inc., at an annual dinner meeting Oct. 23 at the Kenwood Country Club. He succeeds Charles Waldhauer of U. S. Playing Card Co.

Other new officers are William Perin of Gibson & Perin Co., vice president, and William T. Stevenson of Stevenson Photo Color Separation Co., treasurer. John D. Rockaway continues as managing director. New board members are Eric Nielsen of Nielsen Lithographing Co., and Mr. Stevenson. They succeed Harry C. Brinkman of Cincinnati Lithographing Co., Inc., and Edward A. Young of Young & Klein, Inc.

Ten years ago Lawson Co. division of Miehle-Goss-Dexter, Inc., introduced the first successful hydraulic clamp cutter. Last week, D. W. Schulkind, Lawson president. (pic-tured right), cele-brated the 10th anniversary of hydraulic clamping with a party at the Lawson New York show-New York show-room. Looking on as the coke is cut are L. M. Reiss and C. M. Andrews, vice presidents of the company.





#### Hamilton Bond prints well

Your work is as good as your bond

There are at least 15 reasons why Hamilton Bond brings out the best in your work:

Blended, top-quality pulps

Bright blue white 10 distinctive, printable colors

Uniform in quality

Clear formation Even printing surface

Pre-humidified

Moisture-proof wrapped Lies flat, feeds well

10. Genuinely watermarked 11. Accurately trimmed

12. Strong and durable

Folds well 14. Erases well

15. Good opacity

Remember that your work is as good as your bond-and specify

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#### HAMILTON PAPER COMPANY

Miquon, Pa.

Mills at Miquon, Pa., and Plainwell, Mich. Offices in New York, Chicago and Los Angeles

#### LMNA Elects Officers

Clifton B. Batchelder, president, Epsen Lithographing Co., Omaha. Neb., was elected president of the Label Manufacturers Association, Inc., at its annual fall meeting in Chicago, Oct. 31. At the same time, Thomas J. Curran was appointed the new executive director and secretary to succeed Oscar Whitehouse who is now executive director of LNA.

Other officers elected for the 1957-58 term are Ralph J. Wrenn, president, Stecher-Traung Lithograph Corp., San Francisco, as vice-president and Lorenz L. Schmidt, vice president, Schmidt Lithograph Co., San Francisco, for another term as treasurer.

New members elected to the board of directors are Robert G. Griffin, president, Courier - Journal Lithographing Co., Louisville, Ky.; James L. Murphy, vice president and treasurer, Consolidated Lithographing Corp., New York; Theodore C. Nevins, Sr., president, The Nevins Co., Clifton, N. J.; and Ralph J. Wrenn, president, Stecher-Traung Lithograph Corp.

Before joining LMNA Mr. Curran was with Printing Industry of America for 6½ years as director of government relations and secretary of the master printers section. Prior



Thomas J. Curran

to that he was a senior sales representative for the Multigraph Division of the Addressograph - Multigraph Corp. and the Commerce Clearing House, Inc. in New York.

#### NY School Starts 77th Year

The New York Trade School has started its 77th year with full classes totaling 311 students attending day and evening sessions in lithography.

In the evening school, classes for journeymen and apprentices are being provided in offset press, black-and-white and color photography, offset platemaking, tone and color correcting, chemistry and stripping. Special stripping courses were organized for opaquers to help them qualify for work in both of these occupations.

In the day school, the two year course covers practically and scientifically all of the above phases of work.

#### New Building For Cal. Firm

The National Press, Palo Alto, Cal., lithographic printing organization, will construct a new \$140,000 building to be completed by June of 1958, according to Kenneth L. Bowen, partner in the enterprise with J. C. Nute.



DAVIDSON DUAL-LITH
MODEL 233 put us in an
enviable profit position"

-NORMAN J. CHERRY of CHERRY & CHERRY

Cherry & Cherry of Merrick, New York, produce high quality, multi-color advertising material for financial institutions throughout the United States. Early in 1952, the firm was faced with the problem of producing four-page 61/4" x 31/2" pamphlets economically by offset, but quality was of

prime importance.

A Davidson Dual-Lith Model 233 was selected for the job and proved so successful that a second was added to handle increased production demands. The pamphlets are printed four-up at a speed of 5,400 impressions per hour. All of the work is multi-color, requiring a heavy lay of ink, screens, halftones — or all three. Sheets register

with hairline accuracy for as many as eight passes through the machine. And Davidson's exclusive 2-Cylinder Principle provides extra versatility in printing metallic inks by relief from rubber plates for many of Cherry & Cherry's clients. With over 20,000,000 quality impressions behind them, Cherry & Cherry report that the two Model 233 Dual-Liths "have paid off handsomely in peace of mind and profits."

SEE A DEMONSTRATION ...

of Davidson Dual-Lith Model 233 you'll find new ways to cut costs, increase profits on every job . . .



DAVIDSON CORPORATION
A Subsidiary of Mergenthaler Linotype Company
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Headings in Protype • Text in Linotype





4 color offset reproduction

# WARREN'S

# Lithographic Papers

Lusterkote • Offset Enamel • Cameo Brilliant • Overprint Label C1S Fotolith Enamel • Silkote Offset

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FORT WORTH, TEXAS
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GREAT FALLS, MONT.
HARRISBURG, PA. HARTFORD, CONN.

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RENO. NEV. RICHMOND, VA. ROCHESTER, N. Y. SACRAMENTO, CAL. St. Louis, Mo.

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SAN FRANCIBCO, CAL.
SAN JORE, CAL.
SEATTLE, WASH.
SHREVEPORT, LA.
SPOKANE, WASH.
STOCKTON, CAL.
SYRACUSE, N. Y.
TACOMA, WASH.
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The Petrequin Paper Company
The Alling & Cory Company
The Alling & Cory Company
The Cincinnati Cordage & Paper Co.
(Western Newspaper Union
Newhouse Paper Company
Zellerbach Paper Company
Zellerbach Paper Company
Zellerbach Paper Company
The Alling & Corner
Company
Comment Paper Company
Comment Paper Company
The Alling & Corner
Company
Townsend Paper Company
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Nackie Pap

EXPORT AND FOREIGN

EXPORT AND FOREIGN

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20 countries in Latin America and West Indies.
New York Crry (Export) Muller & Phipps (Asia) Ltd.
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India, Malaya, Philippine Islands, South Africa.
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PHOTO BY H. ARMSTRONG ROBERTS

WARREN'S

# Lithographic Papers

Lusterkote · Offset Enamel · Cameo Brilliant · Overprint Label C1S Fotolith Enamel · Silkote Offset

Warren's LUSTERKOTE provides a mirror-like glossy surface that contributes brilliance to the highlights and colors in lithographic reproduction. Now available as LUSTERKOTE ENAMEL, LUSTERKOTE COVER and BRISTOL (1 Side and 2 Sides) and LUSTERCARD.

Warren's Offset Enamel is a double coated paper for the printing of pictures by offset lithography. Double coating improves printability and uniformity, resulting in a higher potential of lithographic reproduction. Offset Enamel is available in glossy finish, Saxony finish, and dull finish. Also available coated one side only.

Warren's OVERPRINT LABEL is double coated on one side and is eminently suitable for labels produced by offset lithography or by letterpress. This paper is pre-conditioned by an exclusive process.

Warren's SILKOTE OFFSET has the appearance of a wove offset but has a unique pigmented surface that gives more brilliant reproduction.

Warren's FOTOLITH ENAMEL is a machine coated two side paper for the reproduction of halftones by offset lithography.

Warren's CAMEO BRILLIANT is a dull coated offset paper with a supremely bright color for de luxe reproduction of halftones.

Write for free booklet—"How Will It Print by Offset"

S. D. WARREN COMPANY · BOSTON 1, MASS.



BETTER PRINTING!

#### Start Cal. Photon Company



Samuel M. Reed, Albert Faustini and Charles Kerwin of Photon Typographers, Inc., with one of the new firm's two machines.

Photon Typographers, Inc. is the name of a new northern California organization formed to operate the first two photon machines on the West Coast. Principals in the corporation are two men who were formerly with Photon, Inc. at Cambridge, Mass., and a western graphic arts salesman. Samuel M. Reed, president of Photon Typographers, was formerly assistant to the president of Photon, Inc., and Albert Faustini, vice president and engineering specialist with the new organization, was head of the Massachusetts firm's service department. Charles E. Kerwin, also a vice president of Photon Typographers and in charge of its sales, was sales manager for Oakland National Engraving & Gravure Co. for many years.

Headquarters of Photon Typographers is at 354 Twenty-First St., Oakland. From here, according to Mr. Reed, the firm will supply to northern California lithographers and printers composition in the form of negative films, positive films, photographic paper prints, and Ozalid plastic prints.

#### **Bert Chambers Honored**

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Graphic arts leaders and friends of Bert C. Chambers gathered at the University Club in New York Nov. 14 to honor him on his retirement after almost 50 years in the graphic arts, and 25 years association with the Strathmore Paper Co.

Sponsored by the paper company which he has served as a consultant in advertising design and production, the luncheon featured a display of

selected examples of the many pieces which Mr. Chambers has designed and developed for Strathmore.

Centering around a theme of "the world of Bert Chambers," several speakers briefly covered the high points of his career in the graphic arts, which started in 1908 when he went to work as a printer for a county newspaper in Ohio. He was also one of the founders of The Aldus Printers, Inc., which specialized in fine letterpress and offset and developed water color printing. When the company merged with the Barlett-Orr Press he became vice president in charge of design. In 1933 he moved to Con-

cord, Mass., where he has worked ever since as a free-lance designer.

#### **Cramer Dry Plate Changes Name**

The name of G. Cramer Dry Plate Co., St. Louis, has recently been changed to Cramer Dry Plate & Film Co. to more accurately reflect their full line of products.

CHARLES C. HAFFNER, JR., board chairman of R. R. Donnelley & Sons Co., Chicago, is chairman of the committee on arrangements for the 64th annual dinner meeting of the Illinois Manufacturers Association, Dec. 12.



# the ideal family of lithographic rollers

It takes more than one kind of offset rollers to satisfy American lithographic craftsmen because of the wide variety of the work they do. They select from these fine IDEAL rollers — so can you!

If you're proud of the quality you can produce on long, high-speed runs, must maintain uniform color throughout the job, want to be sure that you are always starting with fresh, clean rollers—GRAYTONE is for you.

MASTERLITH is the roller choice of the careful craftsman, the man whose primary objective is beauty; he knows these rollers will not absorb color, that they will control water in the distributing system, help him win litho awards.

In the job offset shop where the runs are often short, where plates and fast-setting inks are changed frequently, where you go from presensitized to zinc plates and then back again, and where speed is essential for long, steady runs, LITHOCRAFT black synthetic rollers are tops!

Of course you'll want to try the revolutionary new PLAST-O-DAMP system of Measured Moisture! You take no chance, just order one of the new Plast-O-Damp base rollers and a box of these remarkable new lintless, disposable covers. Watch the change from grayed-out copies to full color in moments.

### IDEAL ROLLER & MANUFACTURING CO.





#### FINE ROLLER FACTORIES

CHICAGO, ILLINOIS 2512 West 24th Street

LONG ISLAND CITY, N. Y. 21-24 Thirty Ninth Avenue

HUNTINGTON PARK, CAL. 6069 Maywood Avenue

CHAMBLEE, GEORGIA 5100 Peachtree Road, NE

#### Thome Elected Sun VP

John S. Thome has been elected vice president of Sun Chemical Corp. and general manager of its graphic arts group.

The graphic arts group is composed of the following companies:



John Thome

General Printing Ink, Rutherford Machinery, Bensing Bros. & Deeney, and Geo. H. Morrill.

Mr. Thome resigned a position as vice president and member of the board of directors of Acheson Dispersed Pigments Co., with whom he had been since 1951, in order to take the Sun post.

As general manager of the graphic arts group, he will lead a two million dollar modernization and expansion program affecting most of the 23 manufacturing facilities under his command.

#### B. A. Steinbach Dies

Bernard A. Steinbach, president and treasurer of A. D. Steinbach & Sons, New Haven, died Oct. 24.

Mr. Steinbach is credited with the development of a method for lithographing maps on silk. During World War II the process was used extensively by the armed forces, and especially by the Air Corps. The maps could be made as small as a handker-chief and easily tucked into a pocket.

He joined the firm, founded by his father, in 1915.

#### Adv. Piece Uses ML Reprint

Lithoplate, Inc., a subsidiary of Harris-Seybold Co., has issued an advertising piece describing its sensitized plates which are micro-surfaced, (slightly etched), to combine the advantages of both smooth and grained plates.

The back of the piece utilizes material that appeared in ML in 1956 as part of a series on presensitized plates. The material, presented as a chart, lists the types of presentisized plates, and their characteristics. The information includes, among other facts, base material, size range, surface, thickness of plate and shelf life.

#### Correction

In attempting to give complete addresses of manufacturers of cold-type equipment in the article on that subject in the November issue, ML fears that some confusion may have resulted about the address of the Mergenthaler Linotype Co., which was incorrectly listed. The address is 29 Ryerson St., Brooklyn 5, N. Y. The company makes the Linofilm.

Intertype Corp., which makes the Fotosetter, is located at 360 Furman St., Brooklyn 1, N. Y.

modern technology in the graphic arts

# COAT

#### SENELITH DEEP ETCH COATING

A high fidelity coating that guarantees uniform plate coverage regardless of climate and temperature. Completely stabilized and free-flowing. Excellent resistance to dark reaction. A better product through modern technology.

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#### SENELITH DEEP ETCH ETCHING SOLUTION

A pleasant-to-use solution that etches evenly and quickly without obnoxious fumes. Uniform etching action allows the platemaker to accurately time the depth of bite, assuring sharper images and clearer halftones. Specify Zinc or Aluminum when ordering.

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# What can PIA do for me?

#### MEANINGFUL COMPARISONS

PIA can tell you whether, in comparison with others, you are making a satisfactory profit in the printing business; whether your costs are out of line; whether your production is up to PAR.

#### INFORMATION CENTER

PIA can serve as a channel for information which will solve difficult problems which constantly arise in your business in the fields of trade customs, trade practices and trade relations. It can help you cut through yards of governmental red tape. It can suggest available sources of services and supplies of unusual character.

#### MODERN MANAGEMENT

PIA can make available to you, your son, your employee —whomsoever you may designate—the tested methods used by experts in the field of Printing Management—be it Finance, Sales or Production.

#### TRAINING FUTURE EXECUTIVES

PIA can put at your disposal for home study use, or in local association classes in many cities, or in numerous educational institutions of college level—the text-books which PIA has published, written by qualified leaders from the nation's most efficient printing establishments.

#### LEGISLATIVE REPRESENTATION

PIA can, and does, represent your best interests when adverse legislation is introduced in the Congress.

#### MANAGEMENT'S YARDSTICK

A plant with ten mechanical employees should be doing \$150,000 annual volume. Are you doing this well? If not, PIA can do something for you and your firm.

5512 other printers can't be wrong. Tell us how many employees are on your payroll. We will tell you more about our national services, and the possible service available to you through one of our sixty regional or local associations, in which your business may be located—what PIA can do for you, and how much it will cost. Write us today.



Printing Industry of America is the largest National trade association representing the Printing and Lithographing Industry with a membership of 5512 companies, employing about 180,000 persons—working together—to improve conditions in the industry, to maintain high standards of quality and integrity, and above all, our customers and clients as successful business men engaged in an industry essential to all human activity.



Thomas Hines, formerly with Dan River Mills, Inc., has joined the New York sales staff of Roberts and Porter.



#### 3M Announces Litho Winners

Over 1,200 entries were examined by the judges in order to pick the 10 winners in the quarterly Excellence of Lithography Competition sponsored by Minnesota Mining and Manufacturing Co., St. Paul. Purpose of the competition, according to 3M, is to build interest in quality lithography by rewarding offset shops, platemakers and pressmen for outstanding examples of offset printing. (See p.

The winners are The Par Printing Co., Dallas; Costello Brothers, Inc., Los Angeles; Offset Trade Pressroom, Los Angeles; Vulcatone Corp., New York; Capper Engraving Co., Knoxville; Leyden Press, Plymouth, Mass.; Royal Blue Print Co., Belmont, Cal.; Parkway Printers, Inc., Los Angeles; and Angeleno Photo Service, Los Angeles.

#### Scharf Joins Sy Pass, Inc.

Edward A. Scharf has recently joined the sales staff of Sy Pass, Inc., 333 West 52nd St., New York.

Mr. Scharf has been associated with the sales of graphic arts supplies for the past 10 years.

#### Ash Kahn Crew Picks Curran

Con P. Curran, Jr., Con P. Curran Printing Co., St. Louis, was nominated for election to membership in the Ash Khan Crew at its meeting in Chicago held during the PIA convention.

Membership in the group is honorary and conferred only on men who have served the printing industry both nationally and locally for at least 15 years. The present membership is 54 men from 22 states.

Any member of the Crew may nominate a man for membership if the nominee has made outstanding contributions to the printing industry at both local and national levels. It requires a two-thirds vote of the membership to elect a candidate.

The Ash Khan Crew was organized in 1951 with nine members. A retiring printing industry president's remark, "Well, I guess now I'm ready for the ash can," sparked the idea for the organization.

The group is believed to be the only one of its kind which both honors its elder statesmen and keeps them available and interested in giving of their talents to the industry.

#### Silver & Gold Club Meets

More than 100 members of Stecher-Traung's Silver and Gold Club, a group of employes with 25 years of service or more, gathered for its annual dinner at the Sheraton Hotel, Rochester, N. Y. recently.

Edward J. Schneider, a platemaker in the engraving department, who is retiring after 50 years with the firm was honored.

Incoming members to the group are Cecil C. Alloway, Mrs. Ethel Breeze, Mrs. Myrtle Glenn, Walter R. Ketterer and Bernard Tripp.

# "COPYRITE" Rigid Plastic layout sheets 54" x 77" / 54" x 120"

The only recommended materials method (made from Vinylite) for confining and accurate register — dimensionally stable — eliminates breakage.

# "COPYRITE" SAVES MONEY! CUTS COST!

"COPYRITE" Rigid Plastic Sheets expedite layout assemblies, simplify masking to produce top quality jobs.

"COPYRITE" (made from Vinylite) contains the properties that make for safer handling, easier storage and with the necessory thicknesses (.005", .010", .015", etc.) that are required for accurate

#### "COPYRITE"

Rigid Plastic Sheets, available in stock sizes for all presses.

20" x 50"	51 1/2" x 72"
26" x 36"	51 1/2" x 74"
36" x 48"	51.1/2" x 77"
42" x 51 1/2"	51 1/2" x 120"
40" x 54"	54" x 72"
51 1/2" x 60"	54" x 77"
51 1/2" x 70"	54" x 120"

**Guaranteed Immediate Delivery** 

Write today for descriptive catalog featuring these quality values!

#### SAVE! Up to 60%

on ALCOA ALUMINUM

all sizes stocked up to 58" x 77" grained & ungrained We are official

ALCOA JOBBERS

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- Stripping Glass
- Ground Glass for Light Tables
- Zinc and Aluminum Plates (grained & ungrained)
- · "Chromeline" for Color Proofing
- Presensitized Plates in stock
- Blaclac & Redlac Emulsions
- Valutone Blue Print Powder
- Opaques & Brushes
- NO-STAT® Static Eliminator Solutions



#### **Orville Dutro Issues Speed-Flex Booklet**



A MULTI-COLORED booklet on the Speed-Flex offset and rotary web presses, pictured above, has been issued by Orville Dutro & Son, Inc., 117 West 9th St., Los Angeles, designers and distributors of the presses.

Speed-Flex presses, manufactured by Western Gear Corp., Lynwood, Cal., are said to offer low plating cost, fast makeready, 20 to 25 thousand press revolutions-per-hour running speed, two or more colors in one operation.

The booklet describes, with illustrations and text, over half-a-dozen different models of the Speed-Flex in addition to information on the Speed-Flex Colorverter and Collator.

One press featured in the booklet is the model 1713 1-OS which has a wide application in the production of small orders of snapouts, business forms and general job work. Another is the model 1713 2-OR which is designed to operate in conjunction with a roll to sheet collator for snap-out forms, or for the production of continuous forms. The booklet shows it being used to produce a tabloid newspaper. Printed two pages at a time and rewound, the pages are assembled on a roll to sheet collator and glued together.

#### Leedal Publishes Catalog

Leedal Inc., has published a 12page catalog describing and illustrating its complete line of graphic arts platemaking equipment.

The catalog also introduces several recent additions to the Leedal line including temperature controlled sinks, utility tables, dot etch tables and refrigerated carbon tissue storage units.

Copies may be obtained from the company, 2929 S. Halsted St., Chicago.

#### Adds To Polycontrast Line

Eastman Kodak Co., has recently added Polycontrast Paper G, double weight, a cream-white, fine grained paper, and Polycontrast Paper Rapid F, double weight, glossy paper to its line of Polycontrast papers.

Polycontrast G was developed to meet the needs of commercial and portrait photographers who desire a double weight, variable contrast paper with a fine grain lustre surface.

Rapid Paper F is especially created

for use by magazines, newspaper, and illustrative photographers who use a double weight, glossy paper. The company states that it has a pleasing high lustre when matte dried.

Complete information on the entire line of Polycontrast papers is contained in "The Polycontrast Story," available from sales service division, Eastman Kodak Co., Rochester 4.

#### Issues Booklet On Pearl

Consolidated International Equipment & Supply Co., 1112 No. Homan Ave., Chicago, has issued a multicolored booklet containing facts and specifications on the Pearl 25 offset press.

Built by Color Metal A. G., Switzerland, a Consolidated affiliate, the press is said to be capable of handling the 9 x 12" and 18½ x 24½" format as well as the 8½ x 11" and 17½ x 22½" in offset.

A four-page black-and-white booklet describing the Consolidated C-20 vertical copying camera has also been released.

The C-20 is designed for operation in both darkroom and normal lighting for continuous-tone copies, contact-screen halftone and linework. It uses either film or paper in rolls or cut sizes in widths of 3, 6 and  $8\frac{1}{2}$ " and cuts in lengths of 3, 6, 8 and 11".

#### Litho Duplicates Rare Book

A lithographed facsimile edition of a rare 1881 volume, the Thompson and West *History of Nevada*, has been announced for early 1958 publication by the Howell-North Press. This Berkeley, Cal. combination plant, specializing in book production, has recently entered the publishing field with the beginning of a series of books of Western regional interest.

#### New Davidson Dual-Lith

A four-page brochure issued by Davidson Corp. announces a new Davidson Dual-Lith, the Perfecting Model 255, for printing both sides of a sheet and imprinting simultaneously. The machine prints both sides of the sheet by either conventional wet offset or dry offset.

The Dual-Lith's plate-impression cylinder is twice the diameter of the blanket, the company states, and users can change from offset to letterpress reproduction, or from one to two-sided printing, in a matter of minutes with interchangeable segments.

Copies of Davidson's Model 255 brochure may be obtained by writing to Davidson Corp., 29 Ryerson St., Brooklyn 5.

#### Standard Study Offered

Macbeth Daylighting Corporation is offering, free, the results of a study on lighting requirements for color appraisal of reflected copy. The study, sponsored by the Research and Engineering Council of the Graphic Arts and the Illuminating Engineering Society, has resulted in a standard suitable for the entire graphic arts industry, the company states.

Macbeth also is conducting an engineering survey to help in solving particular color problems.

Additional information can be obtained from the company, P. O. Box 950, Newburgh, N. Y.

#### Marker Booklet Issued

Charles R. Stevens, Inc., Toledo, has issued a two-color booklet describing its line of automatic counting equipment for printing and converting machinery.

Fully illustrated with diagrams and photographs, it covers both pneumatic counters and markers.

The booklet gives figures from mills using the items, and quotes savings in a medium size mill of \$28,800 in four years, and in a large mill an annual saving of \$104,000.

The marker, which is activated by the counter, automatically inserts a count-mark tab into the pile on any press, converting or cutting machine.

#### **New Senefelder Catalog**

The Senefelder Co., 69-20 48th Ave., Woodside 77, New York, a subsidiary of Philip Lochman & Co., Evanston, Ill., has issued an attractive new catalog, prices included, on its line of lithographic and photoengraving chemicals and supplies.

The 12-page, blue and white booklet, which includes a metric conversion table, covers in detail the company's complete line of art and camera supplies, surface coatings, deep etch coatings, special plate making supplies, pressroom supplies, photoengraving supplies, and engraving needles and scrapers. Terms and conditions of sales are also included.

The Senefelder Co., in addition to manufacturing and distributing its own products, is a distributor and technical representative for approximately 20 other companies. Among them are Electronics Mechanical Products, Grumbacher, Harris Alumolith, Ilford, Leedal, Macbeth Arc Lamp, nuArc, H. Schmidt, and Strong Electric.

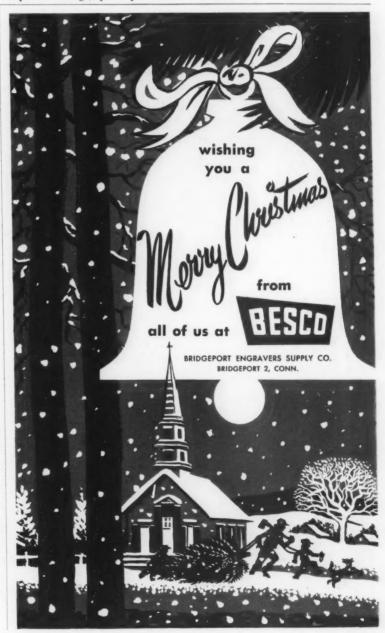




Plate etcher machine which holds the plate face down in a horizontal position to provide even acid flow and etching control, being introduced by Amsterdam Continental Types & Graphic Equipment, Inc. Called the Graviplast, the etcher is made by the West German firm of Hoh & Hahne, and is widely used in European engraving shops. The company states that it works equally well with copper, zinc and magnesium plates and with all etching acids. Further details, prices and specifications may be obtained from Amsterdam at 268 Fourth Ave., N. Y. 10.

#### Plastic Paper Uses Shown

A 36-page guidebook, lithographed in color on Texoprint, a plastic printing paper recently introduced by Kimberly-Clark Corp., gives viusal support to the company's contention that it is the most versatile printing material ever devised.

Designed by Morton Goldsholl, Design Associates of Chicago, the unusual guidebook is aimed at creating interest in the latex impregnated paper among manufacturers and advertisers of books, games, sales manuals, labels, posters and others who are looking for a combination of qualities found in cloth and paper.

Actual die-cutting, folding and stitching are made part of the 7 x 7"

book's makeup, by doubling of the back cover. Though folded and stitched, the cover shows neither flaking of ink on the flattened edge, fraying nor thread pulling, the company states.

#### **PIA Offers Conference Notes**

Members of Printing Industry of America are now being offered the proceedings of the fourth annual sales conference held in Chicago last March at \$10 for a single copy and \$5 for additional copies.

Practical problems discussed in the manual include starting a sales program, developing a mailing list, improving salesmen's performances and relations between the sales and production departments.

#### New ATF Anti-offset Unit

A new anti-offset unit, designed especially for small-size presses and duplicators, has been developed by American Type Founders, Elizabeth, N. J. Called the Scotty Flo-Mix Unit, it is recommended for use on Chief 15, C & P Automatics, Davidson 241, A. B. Dick 350, Kluge Automatic, Masterlith Duplicator, Multilith 1250, and similar small presses and duplicators.

Operating from the press pump, the Scotty lays a fine film of powder on the printed sheet, thereby speeding drying by permitting air circulation. Press speeds can be increased, and offset and smearing prevented, even on the heaviest inked jobs the company states, and sticking is eliminated without the use of slip sheets. The powder container is made of transparent, non-breakable plastic.

#### New Sizes For Ansco Film

Super Anscochrome Daylight Type film is now available in 16, 35 and 70mm sizes.

This film, which the company states is ten times faster than traditional color films, has an official exposure index of 100 with normal processing.

The company recommends it for use in professional equipment only where fast shutter speeds permit full utilization of the film's extreme sensitivity to light.



EASTERN SALES AND SERVICE: 215 FOURTH AVENUE, NEW YORK, N. Y.

company,

General Office and Factory:

824 S. Western Ave., Chicago 12, III.

## Large Aluminum Plates

A new type of aluminum plate for offset, selling for about half the cost of the Alcoa No. 1 Litho Plate, is being marketed in the metropolitan New York area by N. Teitelbaum Sons Co. The company explains that the plate, known as the Alcoa Mill Finish Litho Plate, is similar in every respect to the No. 1 plate, but does not have the high mirror finish of that plate. By eliminating this finishing operation, Teitelbaum states, the plate can be manufactured much more cheaply.

"After graining, the plate will perform as well as the No. 1 plate," according to the company. It is available in sizes for every litho press, including 58 x 77" for 76" presses. Thickness varies with the size of the plate, being in the neighborhood of .029 in the largest size.

The plate can be regrained but the low price makes it worthwhile to use it once and sell it for scrap at up to \$2 each for the larger size, the company adds. It was tested in several New York Litho shops for three years before being offered in a complete range of sizes. Further information is available from N. Teitelbaum Sons, Inc., 261 Grand Concourse, New York 51.

**Tray Stapler Innovation** 

Container Stapling Corp., Herrin, Ill., has introduced a tray stapler which operates on pneumatic power.

The manufacturers state that the stapler fastens tough fibreboard or double walled end trays, closes jiffy bags, staples inner packaging to the box, closes ends of fan-fold corrugated panels, and seals inner strips together permanently.

One feature of the machine is a diaphragm, which the company says eliminates the need for any lubricator, filter or regulator, that has only one moving part.

# Intertype Offers Font Book

A 32-page, 9 x 12" booklet, "Imperial by Intertype," is now available from Intertype Co., featuring the first comprehensive showing of its new Imperial type faces.

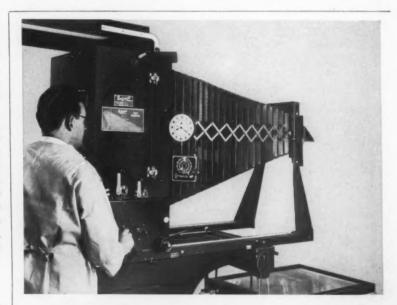
The booklet contains showings of

20 fonts which include sizes from 5½ through 12 point and three fonts of eight point TTS. Full alphabets, figures, points and supplemental characters are displayed.

Copies may be obtained from the company, sales promotion dept., 360 Furman St., Brooklyn 1.

MARSAL PRINTING & LITHO Corp., printing and lithographing, c/o Saul Menin, 47 Carroll St., Brooklyn 31, has been granted charter of incorporation, capital stock of \$5,000. EDWARD J. HARDER, 47, secretary-treasurer of Boncroft Inc., Buffalo, N. Y., lithographers, died Oct. 29 after a heart attack. He was office manager of the Photo Process Engravers in Buffalo for 16 years, joining Boncroft 4½ years ago. He was a member of Buffalo Craftsmen.

INDUSTRIAL PRINTING SERVICE of Rochester, Inc., printers, lithographers, etc., 12 Saratoga Ave., Rochester 6, N. Y., has been granted charter of \$100,000.



# A RECTIGRAPH PHOTO-COPYING MACHINE

# Saves Time and Money in Preparing Layouts and Mechanicals

Speed your camera operations by assembling made-to-scale, clean, sharp, photocopies of lettering, type, charts and other line copy in your mechanicals. Photocopies of photos cropped to correct sizes in layouts also save operator's time. Extra photocopies of layouts help the art department and typographer to keep the jobs moving.

The Rectigraph Photo-Copying Machine copies anything written, printed, typed, drawn or photographed in same, enlarged or reduced size. Negative or positive prints up to 18" x 24".

Let a Haloid branch office representative explain how a Rectigraph Photo-Copving Machine will save you time and money.

# THE HALOID COMPANY

DEPT. 46, ROCHESTER 3, NEW YORK BRANCH OFFICES IN PRINCIPAL CITIES





#### **New Offset Duplicator**

The Davidson Dav-A-matic, a new offset duplicating machine which made its debut at the National Business Show in New York's Coliseum last month. The machine is offered by the Davidson Corp., 29 Ryerson St., Brooklyn. Designed specifically for simplified operation, the machine is said to have wide applications in general offset short-run and systemsmethods duplicating. It features an automatic plate changer and the Universal Systems Feed which combines automatic suction feeding with manual feeding for all types of systems-methods duplicating.

#### **Dick Develops Bond Paper**

A. B. Dick Co., Chicago, has announced development of two "dual purpose" bond papers, suitable for both mimeographing and printing by either letterpress or offset. They are said to be the first bond papers developed specifically for users who combine two duplicating processes. Explaining their utility, the firm cites as an example, a business firm which may print up a year's supply of letterheads then use them for mimeograph work. This did not always work out well in the past, but the previous difficulties, it is claimed have been eliminated by the new dual purpose bond paper. One type is suitable for mimeographing and offset or other duplicating work. The other is for spirit (aniline) duplicating and offset or other printing, according to the company.

#### Markets New Screen Tint

The Roll-O-Graphic Corp., 133 Prince St., N. Y., recently introduced a 22 x 28" Screen Tint as a companion to its 20 x 24" sheets.

The tints are of .005 thickness and come in 120, 133 and 150 line screens. Cost is \$7.50 per sheet.

## **New Office Collators Shown**

Visitors to the National Business Show held in New York recently had an opportunity to see the new line of office collators introduced to the public for the first time by Thomas Collators Inc.

The collators are available in capacities of 8, 10, 16, 20 and 32 sheets.

Principal new design features include an electrically driven stroke adjustment, providing rapid, fingertip adjustment of the feed arm, to handle paper from 5 to 17" lengths; and an adjustable bin assembly, in one piece, integral to the machine and capable of collating pages from 3 x 5" to 20 x 17". Also included are a new electric driving mechanism and greatly improved, burred feed rollers. All working parts, including the power unit, have been designed into one detachable unit.

The new line was put into production late last month and will be available from Thomas dealers at an early date.

#### **Brownville Issues Booklet**

A sample book on transparent grade papers has been issued by Brownville Paper Co., manufacturers of Sea Foam Bond and St. Lawrence Opoque.

White transparents are available in 6, 7, 9 and 12 pound weights, and natural transparents in seven and nine pound weights.

Sample books or full-size sheets are available on request from the company, Brownville, N. Y.

### **New Masterlith Attachments**

A new dual-feed unit accessory kit and a split-fountain ink unit for use on the Masterlith Offset Duplicator have been announced by Photostat Corp., Rochester, N. Y.

The dual-feed unit enables the duplicator to double post card, envelope or tabulator card output, the company states. It can handle  $3 \times 5$ " cards up to  $4 \times 15$ " sheets. The unit sells for \$200 plus installation.

The split-fountain unit, interchangeable with the standard inking unit, is said to increase the efficiency of the machine because two colors may be printed simultaneously from one plate. The company reports that it is equally successful with direct-image plates, photographic acetate and metal plates. The unit sells for \$495.

#### Kleen-Stik Booklet

A booklet that covers pressure-sensitive labeling for both label users and printers has been issued by Kleen-Stik Products, Inc., Chicago.

Entitled, "What Every Label User Should Know," the 12-page booklet points out the major problems involved in labeling, and describes the two types of Kleen-Stik adhesives—mild, for temporary labels, and strong, for permanent labels.

Copies may be obtained from the company, 7300 West Wilson Ave., Chicago 31.

# 3M Announces New Litho Tape

Minnesota Mining and Manufacturing Co., St. Paul, has announced an improved red lithographers tape, No. 616, to replace lithographers tape No. 615. The "Scotch" brand tape, for opaquing negatives, is said to have easy removal properties and long aging characteristics.

Improved properties include dimensional stability, tear resistance and resistance to breakage, the company states.

The new tape is available from distributors and 3M salesmen in 72 yard roll lengths and in widths from ½ inch up.

### Champion Folder On Cashmere

The Champion Paper and Fibre Co., Hamilton, O., has distributed a pamphlet, printed on Cashmere Dull Enamel, 80 lb., to illustrate the capabilities of the new grade of paper it is producing.

The company states that Cashmere is suitable for either offset or letterpress, and gives particularly effective results when using semi-dull or dull inks.

## Recht Issues New Price List

William Recht Co., Inc., has released its latest Rexon offset blanket price list. Copies may be obtained from the company, 50 Church St., New York 7.

# New Plant For Donnelley?

R. R. Donnelley & Sons, Chicago, has announced an agreement to purchase land in the vicinity of Warsaw, Ind., for the possible future construction of a printing plant.

# PLATEMAKING

(Continued from Page 37)

have the tendency to sacrifice quality for quantity. I am sure that most of us at sometime or another, have looked at a borderline plate and then looked at the loaded production schedule and said "You can read it, so run it". Should such an attitude continue you will find that the situation will resolve itself very simply. One fine day you will look up and find that the production schedule is no longer loaded because most of the customers are no longer satisfied by simply being able to read it. It may be too late then to go back to good quality control practices.

It is wise to schedule production in the plateroom so that the foreman has an opportunity to apply sound quality control and then see to it that he uses his time for this purpose and not for additional coffee breaks.

## **Quality Control Methods**

Management textbooks tell us that the systematic control of quality is achieved by means of four principal tools of the trade. These are the following:

- 1. Standards and Specifications which establish the quality objectives to be measured or evaluated.
- 2. Inspection of materials and products to compare them against established standards and to separate the good from the bad.
- 3. Statistical techniques including sampling, analysis and charting, to indicate whether or not quality is under control.
- 4. Inspection devices or the equipment used for objective and measurable comparison of actual quality against the established standards.

Very often in shop talk, the terms "inspection" and "quality control" are used interchangeably. Important as inspection is, we must remember that, whereas a program of quality control by bringing the variables under control enlarges the number of good plates in the rack, inspection by separating the good from the bad merely enlarges the scrap pile.

Inspection may be likened to sorting the bad apples out of the basket, while quality control would be careful spraying, pruning and cultivation of the orchard to begin with, thus getting a good basket of apples right from the start. Inspection eliminates faulty plates, while quality control sets up conditions in which mistakes can't happen or are greatly reduced.

So much for the general concepts of quality control. To those of you who would like to study these at greater length, I refer to any good management textbook. Much of the material already presented was condensed from the chapter on quality control in Industrial Organization and Management by Bethel, Atwater, Smith and Stackman, published by McGraw-Hill. This chapter contains an excellent bibliography which will be reproduced next month.\*

(Concluded Next Month)

# 150 LINE SCREEN FOUR-COLOR PROCESS

# POSITIVES

#### NOTE THESE FEATURES:

- Clouds added to skies (where practical) at no extra charge.
- · Screened positives or negatives in one week.
- Made by famous Dexter color process.
- Color mat proofs free.
- Progressive color proofs available at following extra charges: 5" x 7 smaller \$15.00, 6" x 9" and 8" x 10" \$20.00, 11" x 14" \$30.00, 12" x 18" \$50.00, 16" x 20" \$80.00.
- Our experience includes the making of over 100,-000 sets of positives.
- Free information on pressroom procedures including inks, press and plates.

SEND FOR SAMPLE COLOR PRINTS

YOU CAN USE COLOR ABUNDANTLY AT THESE LOW PRICES ...

5"x7" \$50.00, 8"x10" \$60.00 6"x9"\$55.00,11"x14"\$65.00 12"x18" \$100.00 LARGE DISCOUNTS 16"x20" \$160.00 ON VOLUME ORDERS

**Best reproductions** are made from 4" x 5" **Ektachrome transparencies** 

\* Extra charge for 8" x 10" transparencies \$15.00.

65 to 300 line screens available



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K-S K-S K-S K-S K-S K-S K-S K-S K-S K-



IDEA NO. 116

# "Cool Off with SMIRNOFF"

HEUBLEIN & BRO., Hartford, Conn., tells thirsty folks about SMIRNOFF VODKA with this nice an' icy window and refrigerator streamer. BOB HONER, Asst. Adv. Mgr., worked out the attractive cool-colored design and Day-Glo Red title with GENE MACHI-VERNA and BOB SWIKLAS of AD-CRAFT DISPLAYS, INC., in near-by Bloomfield. Like thousands of other display-wise admen, they "backed up" their work with KLEEN-STIK—the "almostmagic" self-sticking adhesive. The moistureless, peel-an'-press strips make it easy for Heublein's dealers to identify their "Cool-Off" head-quarters.

Outstanding
P.O.P. Ideas
Featuring the World's Most
Versatile Self-Sticking Adhesive!



IDEA NO. 11

7.5

K

# Classy Card for Cable Cars

In picturesque San Francisco, local advertising often takes interesting forms. Like this bi-ig promotion for the Mural Room of the ST. FRANCIS HOTEL. The hotel's agency, HAL S. DOVER CO., prepared a series of king-size (27 by 21) posters—then had 'em silk-screened on KLEEN-STIK FLEX-STIK 800. It's not only self-adhesive for quick-change application, but also resists weather—ideal for long exposure on the sides of the famous cable cars. Elegant production by MAR GARET SMITH, of POSTERCRAFT CO., S. F.

Make sure your customers know about KLEEN-STIK—the valuable "extra" that builds extra business for you. Write today for your big free "Idea Kit".

KLEEN-STIK Products, Inc.
Piancers in Pressure-Sensitives
for Advertising and Labeling
7300 W. Wilson Ave. • Chicago 31, III.

# 34 MARKETS

(Continued from Page 32)

ments represent point-of-sale stimulants like — window posters, counter cards, posters, banners, displays, outdoor signs, trading stamps- premium books, road maps, how-to-use charts — there's almost no end to the kinds of point-of-sale promotions used wherever merchandise of any kind is sold. (Special Note—Craze for trading stamps has developed considerable lithography. The S&H premium book is worth \$1 million annually to a lithographer.)

The "county fair" touch at corner service stations is another indication of lithography at work. Many of the gay decorations there are lithographed on weatherproofed papers.

## Offset for Publications

Think about the opportunities to sell lithography among the publications used by large and small firms alike — annual reports, house organs, company histories, employee manuals, "reading rack" services, institutional manuals, sales bulletins, stockholder reports, calendars, sales training aids and corporate training programs — all kinds of incentive material — posters, pay-envelope enclosures, special-event publications.

Within the framework of these "34" groupings you can select most desirable prospects — "blue chip" accounts — accounts you are best equipped to serve. You can sell free of credit problems. You can invest your time and talents for pay-off results.

The chart is by no means complete. Fact it, it's purposely incomplete so you can expand it into your very own selling plan.

#### Six Recommendations

In conclusion, for your consideration, here are six sound recommendations your company management can write into your plan for the future:

- 1. Recognize complexion and directional changes in the market before they occur, or early in the cycle.
- 2. Capitalize the change by developing strong and sound creative

sales management and selling force, recruiting and training young and enthusiastic sales people, developing a hard-hitting self-advertising program, broadening your market perspective and coverage and expanding your plant facilities as needed.

 Encourage general interest and study of the more technical phases of your process among your people.

4. Encourage special interest in the development of technological advances of importance to your manufacturing process among your people.

Relate general lithographic progress to the needs of your customers and prospects via selling and advertising.

 Develop interest in humanics build a "team"—management, sales, production and plant.

The time to prepare your plans is now! Remember what Horace Mann once wrote about "time"?

"Lost yesterday, somewhere between sunrise and sunset, two golden hours, each set with sixty diamond minutes. No reward is offered, for they are gone forever."

# **BUDGETED COSTS**

(Continued from Page 47)

dicate poor production planning or execution. It may well indicate poor costing procedures.

I would like to take up another question: Should the cost of film, ink, metals and graining be included in budgeted hourly cost rates? My opinion is that they should never be included. Such costs are material costs and as such are extremely variable, depending upon the specifications received for each estimate. The recovery of material costs, plus a fair markup, represents a good percentage of our sales dollar and working capital.

The normal procedure for recouping these material costs is by including in every job estimate a charge for the gross materials used including spoilage allowances. In estimating, material costs would be computed on the basis of the cost of the quantity of materials to be utilized in the specific job, or on a basis of a pre-determined schedule of material costs — one which is so set up that it lists costs by various materials from small quantities to medium quantities, to larger quantities, etc. Where such items are charged out on each job, the estimator can at once note a markup on costs under the markup policy laid down by his company.

To be specific, the cost on such outside purchases as paper, ink and finishing work should be charged out on each job estimate on the basis of the quantity a lithographer would have to purchase if he were buying for that specific job.

Where a lithographer sells a product from his presses on the basis of so many dollars per 1,000 copies, perhaps combination work such as letterheads, railroad tariffs, labels or any other item sold on a price list basis, then he should establish a predetermined formula so that the quantities and costs of the film, ink, metal and graining and paper in varying quantities are included as materials and supplies costs going to make up the details of the price list.

The lithographic industry is extremely short on good estimators. Good estimators are not born; they come up and graduate from the school of hard knocks—experience. The good estimator knows what material and supply costs are, where they should be included in the estimate and how marked up.

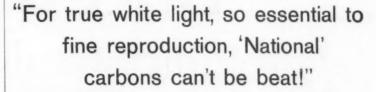
Someone once said "in every rank, both great and small, it is industry that supports us all." With the help of sound costing and estimating policies, the lithographic industry can look forward to continued years of prosperous expansion.\*

# LTF (Continued from Page 41)

the area of full color reproduction. In view of the tremendous advancements of recent years in the field of full color reproduction, it is believed that this up-to-date text will be most valuable both to the apprentice in training and to the craftsmen now on the bench.

Now, a word about the financial picture of LTF. Last year, as in the past, the chairman and managers of the research and education departments and the administrative department, through the executive director, were asked to submit a budget for 1957.

The administrative department performs the usual functions plus the job of information, producing and distributing publications, public relations, etc., plus informing members what happens to their money. They submitted a budget on the basis of what they could spend if they had the money. I think it ran something like \$450,000. The previous year's budget had been \$325,000. Many of us, including myself, spent a few sleepless nights over this. We just could not see, on the basis of estimated income, on which we operate, the \$450,000 budget. Yet I am sure it included nothing but things that should be done for the industry. However, we settled on a budget of about \$400,000. That meant





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OVER 900 STOCK ITEMS TO CHOOSE FROM. In addition to the speed and economy of the Hawthorne direct-mill sales program, you enjoy a far wider selection of fine papers. Hawthorne stocks in-

clude 32 mill-brand and watermarked papers in a full range of colors and finishes. You can specify the exact paper for the job...and be sure of the finest quality.

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The Hawthorne lines include the following cotton content and sulphite papers:

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going out and getting additional memberships or additional contributions. LTF lives entirely on anticipated income. We have otherwise no operating capital reserve.

#### **Building Problem**

On top of making that increased budget, we have a building problem. After having had our research building in Chicago 15 years rent free, we face the problem of moving or else buying by next April 1. We have a contract of purchase at \$70,000.

The best estimate that we could get from nine research centers, universities, and industrial research organizations for moving and providing us with space was \$250,000. (I would like to mention at this time that officers and directors of LTF spent about \$25,000 out of their pockets, in time and travel expenses, to investigate the situation.)

We couldn't see \$250,000 being immediately available. So we are contracted to buy our present research building. In fact, we've already spent about \$15,000 in making it over since we shared it with the Chicago Lithographic Institute for 10 years. The facilities are good, although they are not as desirable as would be a modern new plant. But, I am sure, not all of you have modern, new plants, therefore this should not be a drawback in results that are expected.

### \$60,000 for Building

I'm happy to report that against the purchase price of \$70,000 and \$10,000 allowance for negotiations, legal aspects, transfer, repairing and having this real estate made tax-free, we have collected approximately \$60,000 up to this point, primarily through generous contributions of in
(Continued on Page 129)

# LETTERS

(Continued from Page 49)

books on this subject at a reasonable cost.—Editor.

## Census Figures

Dear Sir:

Some weeks ago I noticed a report of

a survey showing a comparative record of lithographic shops and letterpress shops over a period of perhaps five years. The survey gave figures for both processes.

This has been misplaced, and we are eager to have another copy for our technical man. If you can identify it from this meager description and send me a duplicate I will sincerely appreciate it.

Elsa M. Wehr

Champion Paper and Fibre Co., Hamilton, O.

The article to which you refer was the final census report covering the years 1947-54, as reported and reproduced in the June, 1957 ML (pages 44-45). Tear

180 VARICK ST.

sheets have been sent.-Editor.

# Art Magazines for Offset

Could you give me the names and addresses of art magazines that would be appropriate for use by the art department personnel of a litho plant?

I have been reading ML for 10 years and I don't feel like I could be without it.

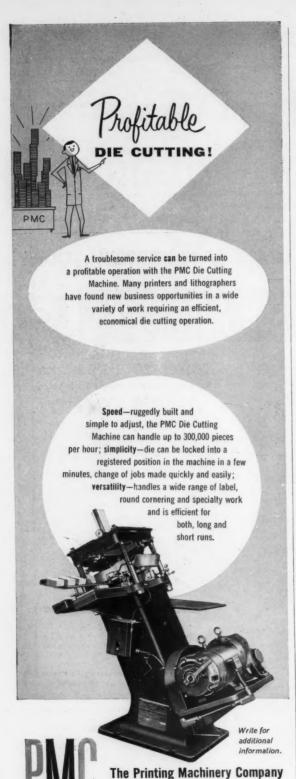
Glenn M. Kaseman Snyder Printing & Lithographing Co.,

Snyder Printing & Lithographing Co., Concord, N. C.

We know of no magazines directly suited to your needs. There are the trade magazines, of course and the fine art magazines. The following, however, may



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prove of interest to you: Art Material News, 1517 W. Fullerton Ave., Chicago 11. Advertising Requirements, 200 E. Illinois St. Chicago 11; and Art Direction, 43 E. 49th St., New York 17. Perhaps another reader can make a suggestion to Mr. Kaseman.-Editor.\*

# TECHNICAL BRIEFS

(Continued from Page 58)

compatible with the plastic film, on to paper or, possibly, on to an endless metallic belt, to form the transfer. The plastic film is applied to the transfer in the form of a cold paste or by extrusion, and the film and support are heated to a temperature and for a time sufficient to ensure fusion of the pattern with the film. After cooling, the film carrying the pattern and the support are separated by stripping. Polyvinyl chloride and polythene are among the plastic materials which are suited to this method of print-

ORGANIC PIGMENTS IN PRINTING INKS. F. M. Smith. Paint Manufacture 27, No. 8, August 1957, pp. 296, 297, 298 (3 pages). Although very few new pigments have been introduced in recent years, improvements to existing colours have been made. This article deals briefly with some new introductions and surveys developments relating to general properties.

THE INFLUENCE OF THE MOISTURE CON-TENT OF OFFSET INK ON BLACKNESS. J. H. Bitter. I.G.T. Nieuws, vol. 9, No. 9, Sept. 1956, pp. 129-135 (in Dutch). Printing Abstracts, Vol. 12, No. 1, January 1957, page 5. Research undertaken by the I.G.T. is described. It is proved that the blackness decreases as the moisture content of the ink increases.

\*KEL-F PLASTIC PRINTING INKS. Anon. M. W. Kellogg Co., Chemical Mfg. Divsn., Jersey City 3, N. J. (Mcb/Kellogg/15, 185) Printing Abstracts, vol. 12, No. 1, page 5, January 1957. These inks will adhere to plastics such as polyethylene, vinyl films and nylon. They are available in two grades: air drying, supplied either as ink concentrates or as pigment suspensions with a separate clean binder, and heatset. The air-drying inks can be printed by gravure or offset or with a rubber stamp from a stamp pad; the heat-set inks, which include a conductive silver for printed circuits, can be printed by the screen process or offset or with a rubber stamp.

# Lithography—General

SUMMARY OF SMALL OFFSET DUPLICAT-ORS AND PRESSES. James S. Wilkinson. Modern Lithographer 24, No. 11, November 1956, pp. 34-37, 149-151 (6 pages). A survey of important features of the Multilith, Davidson Dual, A. B. Dick, ATF Green Hornet, Whitin Masterlith, Miehle Lithoprint and the Harris 14 x 20 offset presses and duplicators. Other notes of interest are mentioned, such as, economy of operation, mechanical simplicity and the ability to produce high-quality printing in a very short time.

How MEYERCORD CO. MANUFACTURES DECALCOMANIAS. The Inland Printer 139, No. 5, August 1957, pp. 46, 47, 97 (3 pages). Decalcomanias essentially are plastic films produced upon temporary paper backing. The plastic films are transferred to other items for decorative, identification, instructional and security purposes. The major steps in decal production are discussed in relation to film, press, inks and quality testing.

NEW BRITISH OFFSET DUPLICATOR, Offset Duplicator Review, 7, No. 9, September 1957, pp. 46, 81 (2 pages). The Lithoset, designed for the office, prints direct from a reversed image master. The printing plate is brought into direct contact with paper. The plate size is 14 x 9 and two kinds are available. One is a presensitized metal and the other is a special direct image plate for typewriters and drawn work.

WHAT ARE THE SPECIAL PROBLEMS OF LABEL LITHOGRAPHERS? Modern Lithography 25, No. 9, September 1957, pp. 46-47 (2 pages). A survey of 40 large label lithographers by Modern Lithography on the subject of label printing. The article includes discussion of paper and inks and a gross sales report on lithographic, letterpress and gravure label printing.

#### Graphic Arts-General

\*THERMOGRAPHIC MAGNETIC PRINTING PLATES. Patent 2,793,135. 117/17/5. 12/1/55-5/21/57. J. C. Sims, Jr., and C. A. Norton to Sperry Rand Comp. Ansco Abstracts, vol. 17, No. 6, June 1957, page 279. While previous patent applications have described magnetic printing plates requiring scanning for image recording, the present patent employs selective demagnetization by heating (exposure to an infrared lamp through a transparency) a plate or drum above the Curie point of its magnetic ferrite coating. Magnetic ink is retained in the still magnetized areas. By applying an erasing alternating current field the temperature for demagnetization can be lowered. The process can also be accelerated by application of an overall heat source insufficient to cause demagnetization. Twenty-seven process and printer claims.

\*XEROGRAPHY TODAY. J. H. Dessauer, G. R. Mott and H. Bogdonoff (Haloid Co.), Phot, Engin. 6, 250-69 (#4, 1955); Ansco Abstracts, vol. 16, No. 4, April 1956, page 151. The development of the various steps of xerography since its be-



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ginning in 1938 is reviewed and its applications, including multiple transfer, reduction printing on punched cards, in lithography and radiography, are reviewed. Continuous tone xerographs are difficult to distinguish from silver halide photographs, and panchromatic plates with an ASA speed rating of 20, compared with 2 for the commercial XeroX plates, are under study. The appended bibliography cites 38 references.

DEVELOPS NEW PRINTING LAMP. Modern Lithography 25, No. 9, Sept. 1957, p. 122 (1 page). Strong Electric Corporation is marketing the Grafarc Tri-Power arc lamp. This particular lamp is a three electrode arc producing a single light source. This method reduces any tendency for dot undercutting and produces three times the usable light output possible with 140 amp, says the manufacturer.

# SYNTHETICS

(Continued from Page 78)

of heavy metal cores and cases is eliminated.

From previous experience in trying to mount thick prevulcanized rubber sleeves over a metal core it was found that any rubber sleeve, thick enough to replace the present coating roller surface, would have to be vulcanized to a non-stretchable backing. By using a non-stretchable rigid backing, to which the surface rubber is securely vulcanized, such a sleeve can then be mounted on a metal core in a manner similar to that used for mounting the thin fabric-backed offset blankets. This, of course, necessitates mounting the coating blanket on a special cylinder with rachet bars or other suitable means for pulling the blanket taut around the cylinder on which it runs.

Since it is often necessary to spotcoat metal sheets, cut-outs to provide non-coating areas on the surface of the coating roller are required. Longitudinal, as well as circumferential cut-outs are used. Spot-coating, particularly where solder seams are required, must be held within very close tolerances. This means that, once the roller or blanket surface has been cut, the edges of the coating areas must remain dimensionally accurate.

To maintain this accuracy the preferred procedure is to mount the rubber blanket, stretching it taut around the cyclinder; then make the desired cut-outs. If the rubber backing used does not continue to stretch in operation, then the margins formed by the cut-outs will remain constant. If, however, the backing tends to stretch with constant pressure while in operation, cut-outs will change.\*

# PHOTO CLINIC

(Continued from Page 73)

regardless of the excellence of the reproduction techniques and the quality of the inks and paper.

On the other hand, a good dye transfer or carbro color print is, in color gamut and brightness range, reasonably close to that of the litho process. A good reproduction, therefore, will be in closer agreement with a print than with a transparency. There is, in addition, a psychological factor in viewing transparencies that does not prevail when viewing an object by reflection. This factor, plus the inherent discrepancy between transparency and reproduction, is often the reason for disagreement between printer and customer. Many color printers prefer reflection copy and request that their customers have transparencies converted to color prints.\*

### SAFETY

(Continued from Page 33)

where two cylinders come together.

One of the most amazing advances,
Mr. Kuehn said, is the safety of the
press in operation. Men can stand
around reading newspapers, he said,
and the press will run right on. Even
lubrication is done automatically and
if a sheet is damaged or off register,
the press is automatically tripped to
permit needed adjustment. In makeready operations, too, interlocking
switches and emergency push buttons
make it possible for from one to four
men to work on separate units of a
multi-color press with complete safety.

Much of Mr. Kuehn's illustrative material portrayed modern Miehle presses. The Miehle company, he said, practices what it preaches with an accident prevention program in its

big Chicago plant which has won many awards in safety contests.

In an introductory talk preceding the showing of the Harris-Seybold Co. motion picture, "The Safer Saber," Joseph McConnaughey, Jr., western district manager at Chicago, said that since introduction of one of the company's earliest paper cutters, over half a century ago, the Harris has been safety conscious.

This attention to safety, he said, is climaxed by the Saber cutter whose built-in safety features for safeguarding the operator range from the correct height of the table to a system of interlocking switches which make an uncontrolled cycle impossible.

Lately, Mr. McConnaughey said, Western Printing & Lithographing Co. has been cooperating with Harris on an experimental project involving use of an off-white reflectorized paint at critical points on presses, a step which, he declared, "may presage a trend in imparting added safety to the offset press."

"If printers know more about the new equipment erected in their plants," he remarked, "they will be safer. That is the reason why we supply an operator's manual with each of our machines."

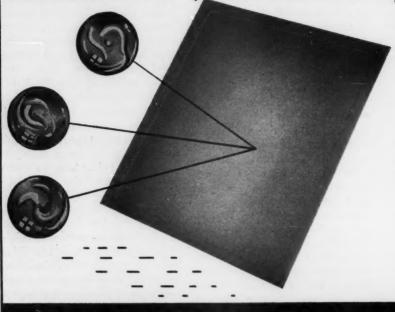
In a review of "New Ideas In Switches" Frank N. Burt, of the Minneapolis - Honeywell Co's Micro-Switch division, Freeport, Ill., described several of the multitude of industrial switches his company makes. The newest switch, he said, is an interlocking device, using colored push buttons to denote conditions at all danger points on a multiunit press. With this system the operator at a master control panel sees a color denoting trouble which warns him not to push the starter button until the proper color shows.

#### Safety Saves Money

If safety directors have trouble enlisting the support of management, "just tell them a good safety record will save them money," was the advice of Karl F. Simpson, Jr., director of safety and industrial relations for the Folding Paper Box Association.

"Use the factual material at your

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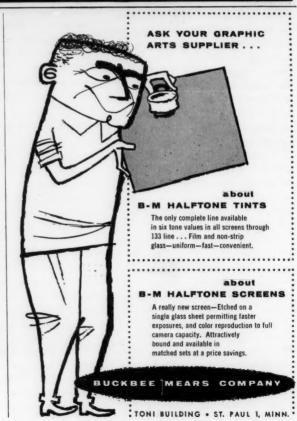
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133 PRINCE STREET, NEW YORK 12, N. Y.



command," said Mr. Simpson, "to back up your assertion that accidents and injuries cost money. You can then hope to 'sell' top management on your safety program."

Lord Baltimore Press, Baltimore, Md., was cited by David T. Shute of Liberty Mutual Ins. Co., Boston, Mass, as one of many printing companies now participating in an offthe-job safety program. Five times as many people are killed while getting to or from their work or in their home activities, as are killed while earning their daily bread, Mr. Shute said. That, he declared, "is a very good reason why we should get into this off-the-job accident prevention picture." He described in detail the "package plan" developed by his company for use by its industrial policy holders to promote safety when away from the plant.

Another Liberty Mutual Ins. Co. representative, Frederick J. Dodson, urged closer cooperation between the plant safety engineer and his insurance carrier's accident prevention service men. Too often, he said, an industrial concern is not aware of what the insurance company's safety engineer can do to help make the plant safety program more effective.

"Putting the Sizzle Into Safety" was demonstrated by Lehigh Shoe Co's public relations director, Clyde R. Powell, an amateur parlor magician whose talents have been made familiar from his many appearances on television and elsewhere.

#### Smith Elected

Walter Smith, manager of employe activities and safety, R. R. Donnelley & Sons Co., Chicago, was reelected general chairman of the printing and publishing section for the 1957-58 term. He had previously served as the section's first chairman when it was organized ten years ago.

Mr. Smith succeeds Eugene P. Ernest, safety officer, U. S. Government Printing Office, Washington, D. C.

To better apportion the section's administrative burden, two vice chairmen were elected this year. Kenneth Umberger, Kingsport Press, Kingsport, Tenn., became first vice chair-

man and Paul O'Neill, Rand McNally & Co., Hammond, Ill., second vice chairman. Dan Grothaus, McCall Corp., Dayton, O., was elected secretary. Co-editors of the section's monthly News Letter will be Gordon Rosberg, Richter McCall Co., Chicago, and Karl Simpson, Folding Paper Box Association, Chicago. Mr. Shapiro was named chairman of the committee to prepare for the 1958 annual meeting.\*

# CONTACT SCREENS

(Continued from Page 56)

screen is in contact with the emulsion side of the film.

Contrast is controlled by the same old method of colored filters. With low contrast originals (for instance, a negative with a density range of 0.90), exposure is made through the Wratten No. 30 (light magenta) filter. which increases the tonal contrast of the screen image. In case of a high contrast original (a negative with a density range of about 1.70), exposure is made through the Wratten No. 5 (light yellow) filter, which reduces the tonal contrast of the screen image. And for normal contrast originals (a negative with a density range of about 1.30), part of the exposure is made with white light and the remainder with colored light as required.

For color work the same method as above is applied, but the position of the individual negative in relation to the contact screen is controlled as

MAGENTA YELLOW CYAN ("BLUE")

BLACK 30° 15° 15°

Relationship between the screen angles in color work. (Magenta contact screens are ruled at 45".)

indicated by the accompanying diagram.

## Method 3: Enlarger

A suitable vacuum plate or vacuum printing frame will be required, accurately positioned in the image plane of the enlarging apparatus. Enlargements or suitable continuous tone negatives or positives then are made in the usual manner, the matte surface of the Magenta Contact screen being in contact with the emulsion side of the film. The contrast of the screen image is controlled either by the use of filters or by the "controlled flash" technique using the Eastman Kodak Graphic Arts Exposure Computer.

#### Advantages & Disadvantages

At present the chief users of the contact screen are lithographers who claim that contact screens give better tone rendering and that they produce finer and more accurate detail. This, they say, is due to the fact that the screen is in contact with the film material and as a result there is no diffusion. Also, it is claimed that many of the faults inherent in the use of cross line screens are reduced, and that the camera lens can be used at optimum aperture.

The screens have some disadvantages, however. Because they are made of film they are easily scratched and damaged, and great care must be exercised in handling them. The darkroom and the camera must be absolutely dustproof for even a speck of dirt might hold up contact.\*

# SMALL CAMERA

(Continued from Page 35)

way to the customer.

The copyboard of the camera can handle work up to 17 x 22", within which dimensions the majority of work falls. The vertical camera incorporates a special flatfield Goerz process lens. The lens can cover 11 x 17" plus bleed, can enlarge 300 percent and reduce copy area to 33-1/3 size. Sizing and focusing are automatic. An auxiliary lens increases the range of the camera to enlarge

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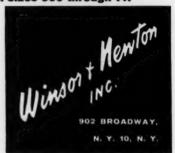
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# How Thousands of Printers are "Drying Up" Profit Leaks

Regardless of the type of printing equipment . . . letterpress, rotary or offset, H&H new Yellow Label DRYSPRAY is preventing former profit-eating waste caused by offsetting, sticking and smudging, plus time-consuming cleaning of wet spray equipment.

Invisible to the naked eye, tiny particles of this new powder, distributed over the press sheet, provide air space and cushion the sheet against others deposited upon it. The dry powder acts instantly—creating a mirror-smooth, dry surface on all types of stock and ink. Nontoxic +H&H "Yellow Label," made from edible starches, is harmless to men as well as presses, Non-abrasive, non-clogging, free-flowing and smooth, it eliminates clean-up jobs on sticky gripper bars, sticky hands and sticky nozzles caused by wet spray operation.

Since a single pound of H&H will dry the same

sheet area which, requires a full gallon of wet spray, exhaust fans are no longer essential. And the elimination of 7 pounds of liquid from the air (for every gallon of wet spray used) eliminates fogging — protects electrical parts and workers.

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four times or reduce to one-fifth size.

"We can now do the whole job, controlling quality right in the shop," asserts Mr. Mayer. Our dollar savings are 25 percent or more, while time savings are up to 150 percent."

Next time you unwrap a lump of sugar, before you wad it up or shred it into the ashtray, look it over. Not much to it, but a lot went into its production. And in a majority of cases, this work was done in a small New York studio, with a camera playing a starring role.\*

# YEARBOOKS

(Continued from Page 29)

Newark, N. J. schools and studied printing for six years at night school. He served in the printing department of an insurance company, worked on a weekly newspaper, and was production manager for a New York company before going into business for himself in Caldwell, N. J. in 1947, where he sold printing from his home. In 1948 he moved to Montclair and bought the building which houses the

present shop. At that time, it was a letterpress shop, and Mr. Rae at first used only half of the space for his offset business, keeping the letterpress shop as a tenant until five years ago when the letterpress business moved out.

Business partner for Mr. Rae is his wife, who works at the switchboard, handles copy for school newspapers and somehow manages to find time to do the bookkeeping too. Robert Van Dyke and Thomas H. Everett, Jr., assist the Rae's, devoting their time to sales and service.\*

# WEB OFFSET

(Continued from Page 40)

plus .46 hours, or .79 hours, and that times 50,000, plus 1.81 is 41.31 hours.

And, in a similar manner, we calculate the time to print 50,000 signatures on a sheet-fed perfector. That is 31.00 hours. On the web-fed offset it is 5.16 hours, and on the letterpress, 85.50 hours. The difference between 5.16 hours and 85.50 hours is tremendous.

# % FIGURES AT 50 M SIGNATURES

#### HOURS COMPARED TO WEBFED EQUIPMENT

85.50 5.16 = 16.56	$\frac{31.00}{5.16} = 6$	$\frac{41.31}{5.16}$ = 8.39
1/16	1/6	1/8

Figure 7

Using the time required for 50,000 signatures for each of the three different presses, we come up with the comparison as illustrated in Fig. 7. The web-fed press will produce folded signatures:

- In 1/8 the time of a 49½" sheet fed offset press and folder.
- In 1/6 the time of a sheet fed perfector and folder.
- In 1/16 the time of a sheet fed letterpress and folder.

If you think of this in terms of percents, the web press would be 1,600 times faster.

To wrap up the entire comparison, we again refer to Figs. 7 and 8 and we can say this: The web-fed press will print and fold 50,000 32 pp signatures in 1/6 the

time, and at 51 percent of the cost of the sheet-fed perfector.

# Savings in Time, Money

Referring to Fig. 8, it is 5.16 hours as compared with 31 hours to print the same job. The cost is \$334.37

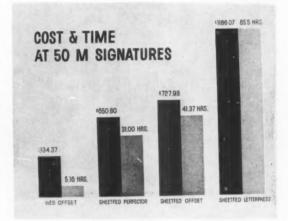


Figure 8

as against \$650.80. These comparisons are the web-fed press, with sheet-fed perfector, sheet-fed offset, and sheet-fed letterpress. When you think of the tremendous saving in cost, there really is a tremendous difference.

Let's repeat, again referring to Figs. 7 and 8, that the web-fed press will print and fold 50,000 32 pp signatures in 1/6 the time and at 51 percent of the cost of the sheet-fed perfector.

The web-fed press will do the same job in  $\frac{1}{8}$  of the time and at 46 percent of the cost of the sheet-fed single-color press in 1/16 of the time and at 28 percent of the cost of the letterpress.

From these comparisons you can see the significance of the web-fed press against sheet-fed offset and the sheet-fed letterpress. If you have the right kind of work, the particular type of jobs that fit on the offset press, these figures certainly prove the economic feasibility of the web-fed press and should emphasize to you that you should very seriously look into web-fed presses if your work is suitable.\*

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# **NEW YORK**

(Continued from Page 66)

whirler, he described. The negative is then put into a vacuum frame and exposed to an arc lamp. Next it is rinsed with a weak ammonia solution followed by another rinse with water. The cycle is repeated for additional colors. He added that Watercote also is suitable for metal and other surfaces.

In exposing the proof he cautioned that exposure time might vary slightly with the colors. He recommended an exposure time of  $1\frac{1}{2}$  minutes for process black,  $1\frac{1}{4}$  for red, and one minute for yellow and blue. But, he said, this can be affected by the power of the lamp and the distance it is from the work. LTF exposure charts can be adapted to Watercote, he added.

Holding up a Watercote made by the Methodist Publishing Co., and a press proof, he challenged his audience to tell the difference.

Mr. Wolitzky said that the advantages of color proofs from positives by the Ozachrome process are economy and speed. He described results obtained by the method as used by Stecher-Traung Corp., in Rochester.

### He said that it takes about 30 min-

utes for a complete set of Ozachromes and that the cost for an  $8\frac{1}{2} \times 11''$  proof is approximately 80 cents.

A set of ozachromes is made by taking a positive and placing it on the desired type of Ozalid sensitized material, and feeding both into an Ozalid machine. In the machine they are exposed to a high pressure mercury vapor lamp which reduces the part of the sensitized material which is unprotected by lines or dots of the original into an invisible compound. A positive print is produced.

The print is then exposed to the vapors of an ammonia solution in a developing tank which develops the sensitized lines or dots, making them as permanent as the material itself. The print will have blue, black, red or yellow lines or dots, depending on the choice of Ozalid material.

During the question and answer

period, Angelo Pustorino, Daniel Murphy & Co., Inc., asked if anything was being done to get deeper yellows in the Ozachrome process.

Mr. Wolitzky recommended giving the print a longer exposure and increasing the ammonia in the solution. Then, he said, lay a piece of absorbent paper over the Ozalid and pass it through the machine as slowly as possible. The paper will trap the water, but permit the gasses to get through. This should result in a deeper color.

John Lupo, Di-Noc Co., asked how faithful the colors were in both processes. Mr. Rottenberg said his process "was as faithful as you can get," and Mr. Wolitzky said colors in his process "are the closest you can get. They are not true colors," he admitted, "because they are a little toned down, but they are true enough to satisfy 90 percent of the litho men."

## **Bingham Contest Results**

William J. Mueller, Racine Wis., won a 10-day trip for two to Paris with all expenses paid and \$300 in spending money as 1st grand prize winner in the recent Sam'l Bingham "Trip to Paris" contest.

Bermuda is the destination of second-prize winner Andrew Balika, Parma, O. He will receive a seven day, expense paid vacation for two on the romantic island with \$200 to spend as he pleases. Third-prize winner is Baldwin E. Settoon, Houston, who won a one-week all-expense paid vacation for two, with \$200 spending money in Nassau.

Judges for the contest which ended Oct. 31 were Wayne Dorland, publisher of Modern Lithography; Myron F. Lewis, publisher of Graphic Arts Monthly; Walter E. Soderstrom, executive vice president of the National Association of Photo-Lithographers; Harris W. C. Browne Jr., advertising manager of National Lithographer; Wayne V. Harsha, editor of the Inland Printer; and E. F. Trotter, editor of Printing Magazine.

There were five fourth-prize winners who had a choice of either a \$500 color television set or a \$500 television and Hi-Fi combination.

Wrist watches valued at \$100 were

awarded to 14 fifth-prize winners. Sixth-prize winners received an \$89.95 Polaroid camera, and seventh-prize winners a \$39.95 transistor pocket radio.

#### LTF

(Continued from Page 115)

dividual lithographers and a few suppliers. (One lithographer contributed \$25,000.)

It might amaze you to know that the Amalgamated Lithographers of America, the letterpressmen's union, the National Metal Decorators Association and other groups have made contributions. I believe that the National Association of Litho Clubs, the Canadian Lithographers Association and other major organizations are planning to do likewise.

We have had contributions from individuals who are not members of any association, local or national, and from foundations that have nothing to do with the graphic arts but are sympathetic to it. Also, from publishers and others who are really customers. However, I would like to add that by the same token there are many lithographers from whom we are still waiting to receive a contribution.

Returning to research, I would like to say that LTF has been making color motion picture reproductions of our technical forums. The reason we're doing that is to save the valuable time of our supervisors. Even though the board limited them to three a year, the demands have been increasing. Cities not as large as the metropolitan areas, where we have many good members, have been complaining that they couldn't finance or support at a minimum of \$3000 a closed circuit television technical forum requiring six or seven men from the laboratory. LTF has been concerned with that for the last four or more years. Now we have completed five out of the eight color films we should produce. These have not been financed out of our budget but by individual cities like Detroit, Syracuse, Columbus, Vancouver, Cincinnati, and others.



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# • A. B. of Two Dot, Mont., writes: "My tired budget was pepped up like new again with a concentrated schedule in Modern Lithography after only three months!"





• C. D. of Black Wolf, Neb., writes: "I cured a nagging boss in only two months with Modern Lithography!"

• E. F. of Peapack, N. J., writes: "A. B. and C. D. are pikers"



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(The advertisers' index has been accurately checked but no responsibility can be assumed for errors or omissions.)

# TALE ENDS

THERE'S an interesting story behind our use of the lithographed Christmas card on this month's cover. Each year the Metropolitan Museum of Art, in New York, sends out a folder describing its line of greeting cards based on classical art work, early wood cuts, sketches, statues and the like.

This year, as is our custom, we selected a variety of designs for our own use with the added thought of selecting one of the lithographed cards for the December cover subject. Accordingly, we picked out a handsome, two-color card featuring a wood cut design of letters spelling "NOEL" attributed to Leonardo DaVinci. The design was particularly appropriate because of its typographical subject matter, and it seemed an excellent off-set job.

We called a Mr. Kelleher at the Metropolitan Museum of Art for more production details of "that striking Da Vinci card with the vivid colors on the interestingly textured paper."

"Oh, you mean that nice letterpress job?" he replied.

After agreeing meekly that that was the card we meant, we got around, as discreetly as possible, to the subject of lithographed cards. Mr. Kelleher obliged by sending us the cover card, just in time to get our feet out of our mouth and back on the saw-dust trail of litho.

Speaking of Christmas cards, we are in receipt of the results of a survey made by Rust Craft Publishers, a big producer of all kinds of greeting cards by offset. The Dedham, Mass., firm reports that Congressmen alone will send out more than a million holiday greeting cards, an increase of about 10 percent over 1956.

That bit of information would be relegated to the "incidental intelli-

gence" corner were it not for the fact that the figure is an important one to lithographers, because the cards are produced, in the main, by offset.

The Rust Craft figures indicate that about two-and-a-half billion Christmas cards will go into the mails this year, a big jump from last year. That's a lot of business for our industry members who handle greeting cards. Perhaps the figures will suggest a promotional campaign to sell even more cards to legislators. Something like "stay in office—greet the folks back home."

Printing is much in the news in London these days. Sir Denis H. Truscott last month was installed as Lord Mayor of London, a position that was created back in 1192. Sir Denis, who is 49, was educated at Rugby and Magdalene College. He is joint managing director of the big printing firm of Brown, Knight & Truscott Ltd. The theme of a big parade through the heart of London, an annual feature preceding the installation ceremony, this year was "Paper and Printing Keep the World Turning."

Now why couldn't some one in America come up with something like that for Printing Week next month?

# Uphill Climb!



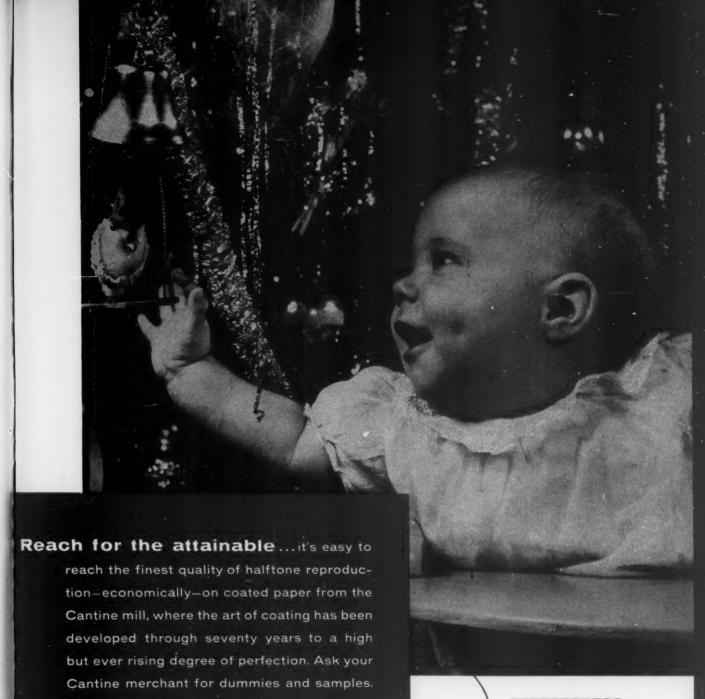
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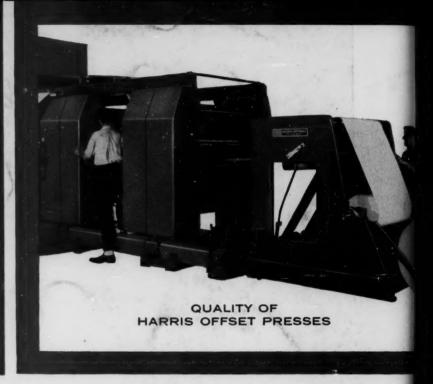
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